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ABSTRACT

This document is the initial description of the specifications of the philosophies, procedures, and processes for secondary schools to use in planning, implementing, and managing Individually Guided Education (IGE) learning programs. This is specified in a target format. Also delineated is the general and specific developmental strategy the IGE/Secondary Project will use to create examples of varied approaches to individualized learning programs. This activity centers around identifying school-specific practices and building support systems that enable schools to become independent of the direct involvement of outside consultants. The developmental effort and implementation processes are based on the theoretical concepts and research of Dr. Gerald R. Nadler, professor of industrial engineering, University of Wisconsin-Madison. (Author)

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Theoretical Paper No. 65

PLANNING AND MANAGING THE IGE/S SCHOOL

by

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Report from the Project on
Models for Individually Guided Education-Secondary

Wisconsin Research and Development
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WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR COGNITIVE LEARNING

MISSION

The mission of the Wisconsin Research and Development Center for Cognitive Learning is to help learners develop as rapidly and effectively as possible their potential as human beings and as contributing members of society. The R&D Center is striving to fulfill this goal by

- conducting research to discover more about how children learn
- developing improved instructional strategies, processes and materials for school administrators, teachers, and children, and
- offering assistance to educators and citizens which will help transfer the outcomes of research and development into practice

PROGRAM

The activities of the Wisconsin R&D Center are organized around one unifying theme, Individually Guided Education.

FUNDING

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ABSTRACT

This document is the initial description of the specifications of the philosophies, procedures, and processes for secondary schools to plan, implement, and manage Individually Guided Education (IGE) learning programs. This is specified in a target format.

Also delineated is the general and specific developmental strategy the IGE/Secondary Project will utilize to create examples of varied approaches to individualized learning programs. This activity centers around identifying school-specific practices and building support systems that enable schools to become independent of the direct involvement of the Center.

The developmental effort and implementation processes to be designed are based on the theoretical concepts and research of Dr. Gerald R. Nadler, professor of industrial engineering, University of Wisconsin-Madison.

I

TASKS OF THE SECONDARY SCHOOL

The task of the secondary school in the communities of North America has been the development of people--citizens who will dream and strive for a better world and act on human values, enduring values which have been tempered in the crucible of human experience, as the means to assure all people human dignity. It is also the task of these institutions to provide society with people who have the skills, perceptions, and attitudes necessary for cooperation and involvement with their fellow humans in political, social, and economic endeavors.

The failure of the schools as a learning institution and agent of socialization has been well documented in recent years. A summary example is provided by data from Project Talent (Flanagan, 1975), in which it was found that nearly half a national sample of people who graduated from high school in the 1960's considered their experiences in school to be worthless and that the same proportion held similar attitudes eleven years later. This same study also found these secondary school graduates to be woefully lacking in many of the skills one would expect a high school graduate to possess. If survival in our contemporary political-social-economic system is dependent upon a person's adaptability and flexibility in the face of the uncertainty associated with a rapidly changing environment, then it is entirely possible that many graduates of the 1960's are not well-equipped to survive their future shock.

CURRENT SUGGESTIONS FOR AIDING SECONDARY SCHOOLS IN ACHIEVING THEIR TASKS

There have been several major efforts to pinpoint the problems that the secondary school is having regarding its lack of effectiveness as a learning environment and socialization agent. The bulk of this "reform talk" about the secondary school is of recent origin, and the volume of the discussion has increased in quantity and concern since 1974. Recently five national commission reports have enunciated a demand for <u>new</u> practices and programs in secondary schools and claimed that a variety of

organizational and instructional changes are necessary if secondary schools are to successfully attack their problems (Brown, 1973; Coleman, 1973; Martin, 1975; National Association of Secondary School Principals, 1972; and Tyler, 1974).[1]

Cawelti (1974) in his critique of these reports found that all called for more flexibility in providing alternative programs for secondary school students, with increased and improved articulation between the secondary schools and all postsecondary learning environments. He also found the reports agreeing that the present curriculum structure in secondary schools is serving a very limited number of students due to policy and procedures that isolate youth from other institutions, age groups, and experiences within the political-social-economic structure of the country. These commissions also call for a better "sense of direction" in school curriculum and program development.

Concern was also expressed that the present secondary school organization has resulted in the school serving primarily as a custodial agency for large numbers of adolescents. This is all the more alarming when one investigates the importance of the 27th Amendment in terms of the traditional relationship between schools and their students. For example, some school districts attempt to control the behavior of students after school hours and off school facilities under the guise of "you are representing our school wherever you are." If the effectiveness of the control is minimal, at least the desire to do so is there. It still is a practice of some school districts to exclude married students from extracurricular activities. In one middle-west athletic conference the coaches attempted to prevent team members from participating in community bowling leagues, claiming that associates in these leagues might be a bad influence on the young athlete. The motion was voted down when one individual noted that in his community there were a number of father-son bowling teams and he could not enforce such a rule.

Other issues raised by the commissions are how decisions regarding educational goals and programs should be made, who should be involved in deciding, and who is responsible for continued design and implementation of future educational operation.

However, these commission reports, despite their criticism of present practices, give little or no attention to the difficulties involved in changing such a complex institution as the secondary school. No mention is made of the needed changes in attitude by the educational establishment if alternative paths, curricula, or programs are to become operating realities in secondary schools. Alternative programs are suggested as necessary, but little attention is paid to how to go about the determination of new purposes and how to design plans for the achievement of these purposes.

We submit that these omissions may have been a conscious oversight, a wise choice on the part of the commission members. We hope they have withheld their recommendation on the "how-to-do" phases of changing the characteristics of the secondary school based on the knowledge of how

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[1] Other reports that treat the reform of American education as a topic and secondary education as a part of the whole can also be useful in measuring the concern and call for effective reforms that influence secondary schools. Examples are: Teachers National Field Task Force on the Improvement and Reform of American Education, 1974; and Summer Institute on the Improvement and Reform of American Education, 1974.

dismal past attempts at such a change have been. We would further hope that the commission members believe strongly enough in what they have called for to insist on a new change model for the secondary school changeover. We submit that such a model must recognize the secondary school as a unique institution that is charged with the growth of a unique group of citizens, common in many characteristics, but differing in every degree imaginable on all other characteristics. The hesitancy to prescribe at the national commission level has been counterbalanced by some state commissions, notably California and Oregon (Newcomer, 1975). Even there the change agents are searching for new ways to improve the process of change.

To aid those concerned with effecting change in the secondary school, one writer has reported a classification system as an aid to study the purposes and effectiveness of typical reforms already attempted in the schools. He claims that much that has been passed as reform in recent years has not been really reform--"at least not a kind designed to alter the characteristics" of the school. Stevens' classification system places all attempts to reform the schools in one of three components: the structure of educational management, educational products, or educational processes. Each category addresses separate issues and typical criticisms of the schools (Stevens, 1976). Using this system of classification one can place all reforms suggested in the above mentioned commission reports by an organizational component: structure, product, or process.

Those members of our society who are most concerned with the characteristics and outcomes of a secondary school experience have requested a change in structure, outcomes, and processes for these schools. Recent research has made those same persons aware that the change processes of the recent past may be inadequate to the future task. In fact, there is good evidence that a good deal of the past effort at reform has been at best ineffective if not a total failure. After all the federal dollars that have been spent to improve secondary schools since 1956 it does not take a genius to recognize that the basic structure and learning process in those schools have not changed appreciably.

The Rand Corporation in a federally commissioned report on the effectiveness of funded programs supporting educational change in schools has concluded:

> Our evidence suggests that the "search for alternatives" traditionally assumed to be characteristic of the problem-solving approach to innovation did not occur. In developing projects, LEAs used information or treatments that were already known to local district personnel. This may mean that LEA staff intuitively feel that the success and suitability of an innovation depend primarily on local conditions, a view that our evidence supports. Thus, local administrators are likely to be skeptical about the reported "success" of educational methods in other districts and tend to rely on the advice of local professionals who have a thorough knowledge of particular local conditions.
>
> The <u>implementation</u> stage was not a simple application of a well-defined technology to a well-understood setting. Instead,

it implied complex and only partly predictable interactions between the project and the setting. During this stage, projects that were likely to be implemented effectively were characterized by mutual adaptation in which the innovation was modified, and the formal and informal organization relationships among staff and among teachers and students were altered. In other cases, effective implementation did not occur. Instead, projects were "implemented" in pro forma fashion, or simply broke down and were not implemented at all, or were coopted by project participants so that the project was changed to fit traditional patterns.

The type of implementation process--mutual adaptation, cooptation, pro forma implementation, or breakdwon--that characterized a project depended on three considerations: the motivations and circumstances involved in the project's initiation, its substance and scope of change being attempted, and its implementation strategy. Mutual adaptation occurred only in problem-solving projects, notably in such projects as open-classroom approaches that were highly complex and required considerable behavioral change on the part of teachers and administrators.

Incorporation could take place in different forms, ranging from assimilation of new practices by the project staff, with no formal LEA continuation decision required, to a conscious decision by the district to commit resources and support to extend the project to all or part of the district.

At the classroom level, projects that replaced existing practice were more likely to be incorporated than those that supplemented the existing curriculum. Incorporation was more likely under the following conditions: an emphasis on training rather than on the introduction of new technology, training focused on practical classroom issues rather than on theoretical concepts, and local development of materials rather than reliance on outside consultants. Effects of federal programs on expected incorporation were indirect. Projects with extensive provision for training and staff development, such as some Title III classroom reorganization and staff development innovations, were most likely to have lasting effects on the staff. Therefore, programs funding these innovations indirectly fostered incorporation [Berman and McLaughlin, 1975].

Rand also reported that the implementation of a process was found to be more effective than the adoption of a technology in the innovation changeover. Further, effective implementation depends on the receptivity of the institutional setting to change and the process used to gain actual adoption of that change to the local condition.

In response to this information Marc Tucker, director of N.I.E.'s Group on School Capacity for Problem Solving, has made the following comments outlining his organization's approach to school reform.

> One of the least remarked yet most important characteristics of people in schools with severe problems is the feeling of isolation and sense of powerlessness of virtually everyone in the organization. Each group in the school or district perceives others to have the power to change things or to sabotage its efforts to change them, and each feels itself entangled in a web of constraints.
>
> A similar picture could be painted of the world as it looks to a school board member, but the basic point is made. These perceptions clearly conflict with each other, and yet there is a certain legitimacy to each. The problem is that each group of actors is caught in a system which makes no provision, or at best, insufficient provision, for people to come together and share perceptions; define problems; generate or search out a range of possible solutions; select and plan to implement a solution; carry it out; and assess the impact of their actions from all their points of view.
>
> We would argue that until incentives [policies] and structures [methods] are established to promote the performance of these functions, in ways suited to the problems and style of each district or school, everyone in education will continue to feel powerless to alleviate problems that will remain with us. Thus, we view the increasing of productivity not primarily as a problem which can be solved by installing new accountability systems, teaching administrators improved purchasing techniques, or utilizing superior technology, but as a problem of improving the organizational climate (problem-solving and decision-making structures, incentives to change, skills in managing collaborative planning and implementation, mutual support and communication, opportunities for relevant training, etc.) in which people work [Tucker, 1975].

The appropriateness of the present day secondary school with its rituals, subject structure, curriculum and organizational patterns as a worthwhile place of learning for adolescents has been very seriously questioned. The inefficacy of this school organization has been documented by many. We have noted that there now is a national call for reform. At the same time serious change agents are questioning the change processes used to improve other segments of the presecondary educational units as costly, ineffective, and sometimes counterproductive. Federal and state educational authority is calling for change processes that have the prospect of being effective but at the same time within the federal, state, and local budget limitation imposed by a declining enrollment figure. In the proposal advanced in this paper the above conditions have been taken as a compelling guide in our deliberation. Also, guiding our effort has been the knowledge that a society in order to sustain itself needs institutions that are capable of a level of planning and management flexibility adequate to provide the capacity to prepare the youngest

members of the society for a productive and wholesome life in that society regardless of what the future will be.

New patterns of society have emerged and with them new patterns of education are being requested. To meet these demands several alternative secondary schools have been created. John Bremer, innovator of the concept of school without walls in Philadelphia's Parkway Program, says that the future of this society depends on a better use of "social intelligence" by citizens in cooperation with their fellow men to accomplish common ends that enhance the dignity of everyone. In a recent publication Bremer said that

> . . . . society has to assume a more complicated responsibility for the education of the young. . . . Education must become a function of the total community, not least because everyone of us needs to concern himself with his own progressive education in the light of changing society. . . . This suggests that future curriculum must be based on skills of communication, skills of organization and management, and political skills, but not dealt with in a purely academic fashion. From nursery school on, children must learn to take some control, some responsibility for their own learning; there is plenty of evidence to show that they can do it [Bremer, 19].

It is to this end that the developers of the IGE/Secondary Project focused their attention: to provide the developmental and implementation processes to aid schools to change to places where people learn how to learn, places where administrators, teachers, parents, and students grow and gain experience and knowledge in all areas of concern to them. In our frame of reference, the school is a place where people can develop their minds, their bodies, and their hearts. It is a place that facilitates the achievement of a variety of human outcomes.

Our vision foresees these human outcomes becoming realities. It happens in a school where people can develop their minds through the development of basic skills, concepts, and intellectual abilities; in a school where people can develop their bodies and understand the psychomotor aspects of using their bodies; in a school where people can learn to use their hearts and minds to develop their affective capabilities, to understand their own strengths and their own weaknesses, and to develop themselves and their relations with others for the benefit of all.

To foster these human outcomes we envision not only a place where they can happen, but also a process, a changing and growing process, that will facilitate their attainment through a variety of educational programs. In these programs, education will be valued as experience--not only as preparation. Education and learning will be designed to be a richly rewarding experience in and of itself. Education will be lifelong; it will be so integral a part of life that people will not know when it begins or when it ends. It will be continuous because of the rapidly changing world where facts erode in all phases of learning. People will increasingly demand the right to study and learn because learning will be a source of great satisfaction.

> The self cannot emerge and develop unless there is freedom, choice, and responsibility, unless each student experiences himself, and from the experience of his own senses becomes an active force in life, free to choose and select, free to feel and express openly and honestly the nature of these feelings, free to be responsible for the evolution of the real self, free to identify with living forces, with alive teachers who encourage growth and individual identity, who value being for itself and who can enable the individual to engage in meaningful inquiry and activity [Moustakas, 1969].

Education will be fun. Learning situations will be stimulating, joyful, and deeply involving. There will be a learning environment in which the experience of learning is in itself a reward sufficient to produce changes. Education will include noncognitive dimensions; it will be directed toward other dimensions of humanness. An emphasis on aesthetic, sensory, and emotional development for achievement of satisfying interpersonal relationships and heightened awareness of humanness in all its dimensions will be an important part of this environment. People will become better acquainted with their feelings and emotions so that feelings are friends and not enemies; so people will not become alienated from themselves and others; so that they will be able to recognize and deal with feelings of love and hate, and the need for intimacy, and the need for power. Education will, in part, be learner-designed. If education is to be a lifelong joyful experience, if it is to enable each person to develop to the fullest his potential and deal with his problems, then each person must have an important voice in determining what his or her educational goals and experiences should be. People will be able "to learn from their environment, to enjoy the present, to get ready for the future, to create and to love, to learn to face adversity, to behave responsibly, in a word, to be human beings" (Klausmeier, Rossmiller, and Saily, 1976).

The "teacher" will become a facilitator of learning. Teachers and learners will be partners in the learning process, abandoning the "we-they" concept that so often pervades education. The teacher's role will change from that of evaluator, disciplinarian, content specialist, and record keeper, to that of a facilitator--a guide and companion in learning. Learners and facilitators will discuss and explore subject matter in a variety of settings, reaching beyond the school walls and school day. Learners will work with each other and learn from the experience of communicating ideas, concepts, and thoughts. Education will not be restricted to classrooms and courses. The total environment will be the school. Freed of the lock-step of classroom rote learning, people will use their world and its concerns for learning that will be relevant to them. Involvement with contemporary problems will become an essential part of the educational process. Thus, we foresee that education will differ in duration, methods, location, concepts, and goals.

And for what purpose? To create a society where people value dignity, cooperation, involvement with others, individuality, creativity, and personal growth that promotes the dignity of all members. To create an environment where people can build a fulfilling and co-

operative society where they value their own selves but recognize that there are others in the world and that cooperation, sharing, and interaction among people can benefit both self, others, and society.

We envision a balance in social and natural environments in which nature is appreciated both for its abstract beauty--flowers, mountains, abundant wildlife--and for its interrelationship with humanity. In our vision, people recognize and respect each other's individuality. They function in a manner that reflects concern for the interrelationships between individuals and between individuals and their environment. We believe that it is possible to develop the effective aspects of society such as new knowledge, beauty, aesthetics, health care, and engineering, while at the same time maintaining a balance by using these procedures and developments to foster the interrelationship between people and their environment.

An integral part of the environment is the school where people can learn and grow. We envision a school that serves as a melting pot for knowledge and a catalyst for lifelong learning. It is a place that helps people grow and develop into individuals who can interact in society and with their environment.

THE IGE PHILOSOPHY

The University of Wisconsin Research and Development Center for Cognitive Learning has long been interested in the issues and questions of how to change and improve schools. The Center has supported the search for solutions to the issues raised by critics of the schools in the hope of reducing failures and creating schools that are humane, democratic places to live and learn. The program which the Center has been successful in developing and implementing in elementary schools is Individually Guided Education.

The purposes of IGE have been succinctly stated by one scholar in this manner:

> IGE aims to provide quality education that yields high student achievement, develops the abilities for underlying achievements, and contributes to healthy personality development. This aim becomes a reality in IGE schools that provide an environment in which the individual students learn at rates appropriate to each student and in a manner suitable to each student's learning style and other intellectual and personal characteristics. Students, upon completing IGE elementary schooling, should have achieved higher than in other kinds of schools. They should have acquired higher-level conceptualizing skills and other abilities which enable them to continue to learn, and also should have healthy self-concepts [Klausmeier, Rossmiller, and Saily, 1976].[2]

---

[2] For a detailed description of these components, see Klausmeier, et al. 1971, pp. 17-30.

IGE is based on the belief that a school's learning environment should be characterized by three pervasive attributes. The school should be organized and managed so that each person (principal, teacher, student, or parent) should have the opportunity to be involved in the decisions that affect the growth, needs, and interests of that person. The learning values and materials developed by the developers of IGE also recognize that each person has a unique pattern and rate of emotional, intellectual, and physical growth which is continuous with recognizable high, low, and plateau periods. IGE developers do require the operation of learning programs that provide for each person's balanced emotional, intellectual, and physical growth based on the needs, interests, and background of that individual. In brief, the three operating conditions of an IGE school are shared decision making, continuous progress in learning, and personalized learning programs. Although there is a substantial body of research in the social sciences and learning which supports the validity of these three concepts, belief in them is as strongly rooted in the values of the scholars, teachers, and administrators who developed IGE as it is rooted in empirical evidence.

Seven components have been identified by the developers as modes of managing an IGE school. Each component is complex, involves the full learning community membership in its function, and is correlated to the other six components. The seven components identified in the elementary model are the multiunit organization, instructional programming for the individual students, curriculum materials, a measurement and evaluation model, a system for home-school communication, research and development, and facilitative environments (Struve, 1974). The developmental and research activities of the IGE/Elementary developers have laid a solid foundation for the IGE/Secondary Project to begin the developmental activities that will produce a secondary-school version of IGE.

The current IGE/S developmental effort has attempted to keep faith with the philosophy underlying IGE and its operational components through the development of planning, management, and instructional processes that best serve the secondary school. To achieve this goal, we have first identified the societal conditions necessary for a society to renew itself and maintain its equilibrium in a changing world (Koritzinsky and White, 1973; Knezevich and Way, 1972). Second, we have outlined the internal learning environment of the schools that must operate in order to create citizens who can challenge and find solutions to match the predicted but unknown future changes.

The approach to individualizing instruction in secondary schools taken by the IGE/Secondary Project grows out of the same concepts which underlie the elementary model (Klausmeier, Rossmiller, and Saily, 1976). It is anchored in a set of values and beliefs about people in society and the functions of the schools.

A PURPOSE HIERARCHY TO FACILITATE THE VISION

The IGE/Secondary Project originated in response to the demand from school districts for the implementation of successful IGE modes and practices from the elementary school to the secondary school level. The focus of the IGE/S Project developmental effort is to aid schools in

moving toward being or becoming places of learning which reflect the basic characteristics of Individually Guided Education: shared decisions, continuous progress, and personalized learning programs. As an aid to defining approaches to this task, an IGE/S project staff developed a planning tool called a purpose hierarchy. Figure 1 presents the concepts in a hierarchical arrangement the project considered important to achieve in the developmental and implementation effort. Each concept is formulated in terms of a project purpose: each line is a mission, need, aim, or concern that is to be achieved. Moving down the chart there is a progression from rather specific and circumscribed purposes to broader, more encompassing purposes. In this manner each purpose statement in the chart becomes the reason for being or "why" for each previous statement.

The focus of the project is to aid schools in moving toward being or becoming an Individually Guided Education/Secondary place of learning. This is reflected in Figure 1 by the single asterisk. At the same time, this focus always remains within the context of higher purposes. This is reflected in the view that when we concern ourselves with a school, our focus is to incorporate into the school continuous progress in student learning. This can be noted by the double asterisked purpose line in Figure 1. While it is important for the project to have a specific focus, it is also important that the direction should always be toward the purpose of the school. In a similar vein, the purpose of what a school does must always be directed towards the higher level concerns of society. Thus, the purpose hierarchy shown in Figure 1 extends beyond the focus of the school to concerns relating to society in general. For example, while the project has its own identified mission, it also must always be concerned with such higher level purposes as having all people carry out life plans that provide individual satisfaction and personal growth as well as contributing to the effective operation and improvement of society as a whole. The purpose hierarchy serves as a line to direct the project toward facilitating our concept of a secondary school.

The IGE/S project places heavy emphasis on actually working in schools as a major part of the IGE/S program development. The interactive mode of this developmental model is based on a set of assumptions regarding the process of change and improvement in schools and the methods which can be used most effectively to facilitate this change. This interactive model will be discussed fully in Chapter II. The assumptions which underlie the developmental model are as follows:

1. People are the most crucial element of any school program. They can change and can improve their ability to develop and operate effective programs for all types of learners.
2. People associated with any school possess the basic abilities needed to develop an effective education for their own circumstances. Each school and the community it serves is unique--if for no other reason than that the people involved with the school or community are different--and therefore requires its own adaptation of IGE to fit its unique circumstances.
3. A change process that focuses on assisting people to determine the content and structure of their educational program is the most appropriate means to obtain continuous change

Identify R & D Center developments and resources

↓

Determine a project management structure

↓

Synthesize different educational theories

↓

Identify curriculum materials already available

↓

Develop a curriculum adaptation process

↓

Define alternative model(s), assessment, and evaluation tools

↓

Develop support mechanisms for schools

↓

Determine systematic methods for competency-based learning programs

↓

Develop teacher tools, attitudes, planning, and management skills for instructional change

↓

Develop a school resource adaptation process

↓

Identify what IGE/S is all about

↓

Develop alternative IGE/S school targets

↓

Develop alternative stages of schools moving toward target

↓

Develop means of presenting IGE/S concept based on individual needs of a school

↓

Identify a range of intervention approaches for IGE/S

↓

Establish models for evaluating current effectiveness of individual school

↓

Determine appropriate IGE/S target for individual school

↓

*Aid schools in moving towards being an IGE place of learning

↓

Define school as learning environment that is a good place for students to be and/or get help

↓

Develop the school as community resource

↓

Establish effective school-home-community relationship

↓

Develop effective education programs for school

↓

Provide each teacher with effective education programs that fit his or her individual circumstances

↓

Have each teacher facilitate individualized learning programs

↓

Have school based learning community using individualized student learning programs based on need, rate, interest, learning style

↓

**Incorporate continuous progress of student learning into school

↓

Determine continuing change and improvement program of learning for school

↓

Develop systematic change process for school

↓

Provide each student with educational programs and opportunities based on his or her individual needs, interest requirements, purposes, goals, objectives

↓

Enable each student to learn prerequisite and facilitory content material necessary to achieve his or her individualized educational purposes, goals, objectives

↓

Enable each student to formulate his or her individualized life plans from knowledgeable (accumulated human experience) base

↓

Enable all people to design and implement life plans that fulfill individual satisfaction and personal growth as well as contribute to effective operation and improvement of whole society

↓

Have all people involved in developing society that enhances development of human values while at the same time increasing effectiveness

↓

Have all people involved in determining what purposes their society wishes to pursue

↓

Figure 1. IGE/S purpose hierarchy.

> and improvement of learning programs. New knowledge of alternative ideas necessary for effective change is best received when there is a self-perceived purpose for acquiring the knowledge.

The subject of our paper, planning a changeover to individualized learning modes for secondary school students, focuses on the need to change the structure of the secondary school and on the revamping of the processes used to foster and sustain change in order to improve the learning treatment of the student.

In the next chapter we present the theoretical approach to planned change chosen by the project as the best currently available approach to change in secondary schools. The techniques and strategies of this planning process have been field tested by the designer in his work with hospitals, businesses, industry, and educational agencies. The third chapter demonstrates the processes field tested by the project in cooperating secondary schools. These planning strategies and practices are our recommendations for schools that wish to operationalize the philosophy underlying IGE. The final chapter informs the reader of the developmental strategies the project will pursue to continue the development of these planning techniques.

II

PLANNING AND IMPLEMENTING CHANGE IN THE SECONDARY SCHOOL

A Perspective

The preceding chapter delineated a variety of the recommendations made as a result of national studies on the need for change in secondary schools and presented a statement of what the IGE/S Project envisions as developmental goals for a school. In this chapter, we will specify a framework and a series of concepts that are believed to be factors of a change program for a secondary school. However, it is necessary to consider the question "Why should secondary schools change?" in order to develop a basis for subsequent planning for change.

IGE/S believes that change should occur in secondary schools. However, change simply for the sake of change is not an appropriate rationale. Rather than envisioning change as a force to create new situations or to move schools along a predetermined path, the project takes a different view. Put simply, change is a constant force with which we live; over time, conditions and circumstances inevitably will change. This certainly is not a new or innovative view of the world; it was first presented by Heraclitus around the 6th century B.C. However, the project believes that this fundamental concept of change as a consistent force is a viable philosophical view of the world in general and of secondary schools in particular.

Acceptance of change as a constant force has further implications that must be considered. IGE/S believes, along with Toffler (1970, 1974) and other futurists, that this constant change, if left unattended, quickly leads to future shock, not only in our society but also in the programs and procedures that are operating in our secondary schools. In other words, even if one assumes that a particular secondary school is now operating appropriately developed school programs which meet the particular needs of all students, over time conditions and circumstances will change and thus make some redefinition of that program essential.

Assuming that change is constant, there are three general responses which secondary schools adopt. One is the traditional approach of refusing to recognize that change is taking place even as it is occurring, another is recognizing it only in the sense of operating in a reactive, crisis-oriented mode, and the third is actively seeking to prevent changes. These behaviors are typically manifested in the problem-solving format taken by many schools in which needs are identified and special programs are developed and installed to meet those needs according to a "bits and pieces" approach (e.g., adopt a small curriculum package, install modular scheduling without increasing flexibility). While this approach undoubtedly provides some relief from the problems that arise,

IGE/S prefers a second approach. Our approach is to accept change as a constant; to prepare for these inevitable changes through a concentrated, systematic effort; and to determine what is desirable and the directions which should be taken, thereby moving from a reactive mode to an active mode in an attempt to shape the flow of changes that inevitably come about. More specifically, IGE/S advocates the need for ongoing systematic attempts by secondary schools to search today for solutions to problems rather than waiting until the problems must be dealt with in a crisis-oriented mode. Such a search for solutions places schools in a positive position to confront the future and has the added benefit of maintaining current success-producing operations. That is, many of the programs and ideas that are now ongoing in the schools do not have to be totally modified or discarded and can form the base for an effective continuing change and improvement program for a future-oriented secondary school.

A Direction

The studies noted in Chapter I (Brown, 1974; Coleman, 1973; Martin, 1975; National Association of Secondary School Principals, 1972; and Tyler, 1974) have delineated the need for widespread reform of the educational process at the secondary level. Each of these studies put forth recommendations which point to the necessity of sweeping and systematic educational change. There is a consistent theme underlying a variety of these recommendations: the need for changes that recognize and deal with the differing needs, backgrounds, interests, and learning styles of secondary students. An often proposed, but rarely implemented, procedure for dealing with these issues is the concept of individualization through teacher-to-student-specific programs. Teacher-to-student individualization is the IGE/S perspective on learning that includes the philosophies of continuous progress, shared decision making, and personalized learning and implies a series of goal-oriented outcomes each with its own set of alternative practices that take into account a variety of student differences. This individualized approach is fundamental at the secondary level, where diverse needs are both more apparent and more complex than at the elementary level. At the elementary level, student needs are traditionally grouped around the basic skills--reading, writing, and mathematics. Therefore, many individualized programs have been developed to aid students in acquiring these basic skills. At the secondary level, however, the emotional, intellectual, and physical needs and interests of students can no longer be easily grouped or individualized in terms of subject matter orientation, especially when viewed in terms of aiding students through the transition to adulthood. IGE/S believes that application of the concept of individualization is the most viable means to achieve needed educational reform in the secondary schools. Therefore, IGE/S is oriented toward change at all levels of the school (board, principal, program, classroom). This facilitates the development and implementation of educational programs which enhance teacher/student individualization contacts.

CHANGING THE SECONDARY SCHOOL

Hypotheses and Assumptions

The basis of the IGE/S approach to changing secondary schools is a search for ways in which a specific school can bring about teacher-to-student individualization. The focal hypothesis is that in order to operationalize student individualization, it is necessary to begin the search for solutions with a change program that considers the uniqueness of the background, personnel, interests, needs, and community of a particular school which wishes to begin movement towards individualization. The guiding principle by which IGE/S operates is, simply stated, this: the way you go about doing something significantly affects the quantity and quality of the results obtained.[3] In this instance, the way you go about developing and implementing a student individualization program in a school will significantly affect the quantity and quality of results obtained. IGE/S believes that it is contradictory and that it minimizes the probability of success to advocate that a school adopt a student individualization program without first applying the concept of individualization to that school. In this sense, IGE/S differs from developmental approaches in which a series of materials and procedures are developed and then "handed on" to a school. Such an approach assumes that the adoption of those materials and procedures will result in individualization. This approach often has yielded minimal results--in part because no attempt has been made to individualize at the school level and because the approach emphasizes only what a teacher and student can do in the classroom.

To begin a change program of individualization for schools leads to a second hypothesis: some form of change agent or process facilitator is necessary to help define, develop, and implement the specific individualized change program for the school.[4] While IGE/S believes that this change agent capacity is necessary, it also believes that the way a change agent operates will significantly affect the results obtained. In this sense, we have defined a series of assumptions about the developmental interaction between a specific school and a change agent. (In most of our work to date, the change agent has been a member of the project staff; in future work we envision that the change agent will be a person who has been trained in the appropriate process facilitator concepts.) These assumptions are as follows:

1. There is an interactive, dialectical nature to the installation of the IGE/S approach to individualization in any specific school.
2. Every school is unique, if for no other reason than that the people who are a part of it are unique; thus, each school must be dealt with as a unique unit.

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[3] Principle adapted from discussions in Nadler, 1970.

[4] This concept of supportive agencies, while not new, is receiving renewed emphasis from such groups as the American Association of School Administrators which feels that a regional service agency approach is an effective, economical, and efficient way of delivering programs to schools.

3. Every or any concept (such as teacher-to-student individualization) has to be incorporated into each school through a process that enables the development or synthesis of a "new unique" concept (such as a school-specific teacher-to-student individualization program).
4. Any program for a school will be most effective when it is planned, developed, implemented, and evaluated by those using or receiving that program.

General Strategies

The overall purpose that integrates the above two hypotheses is that the primary role of the change agent is to aid schools in moving towards being an IGE place of learning. In keeping with the assumptions listed above, to achieve this purpose IGE/S has formulated a dialectical model that is based on a school and change agent interacting over time. This model of development calls for a three-stage dynamic interactive approach involving a change agent and a secondary school interested in moving towards individualization. The three stages are (1) conceptualization of and cooperative planning for interactive in-school work, (2) interactive implementation of the preplanned conceptualization, and (3) dynamic integration of the original conceptualizations with the operating school realities. This process, repeated over time, allows for the development of two specific but necessary products. The first is the product of an example of synthesized approaches for change to individualization in a secondary school. The second product is the development of a school-specific target program[5] that is designed to enable the school to develop its own teacher-to-student individualized program. This research model is graphically represented in Figure 2.

THE RESEARCH MODEL FOR IGE/S

The model, as presented in Figure 2, consists of three stages of interaction, developed over time, between the change agent and a school. The variable of time is important in the process. The model does not imply a static time continuum in which a school starts at a set time, proceeds through a series of sequential activities, and becomes a "finished" product at some other point in time. Rather, time is relative in that the starting point, the end points, the recycling points, and the changes between stages are all related to the specific interactions going on between the change agent and the school.

The research model contains three basic components: the change agent, the school, and the interactions between the change agent and the school. It also contains three time stages. Stage one covers the initial work by the change agent and the school in developing background

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5 The word target is used to imply that a plan has been designed to achieve a specific purpose for a given set of regularly occurring conditions. Additional discussion on the concept of target is presented in later sections of Chapter II.

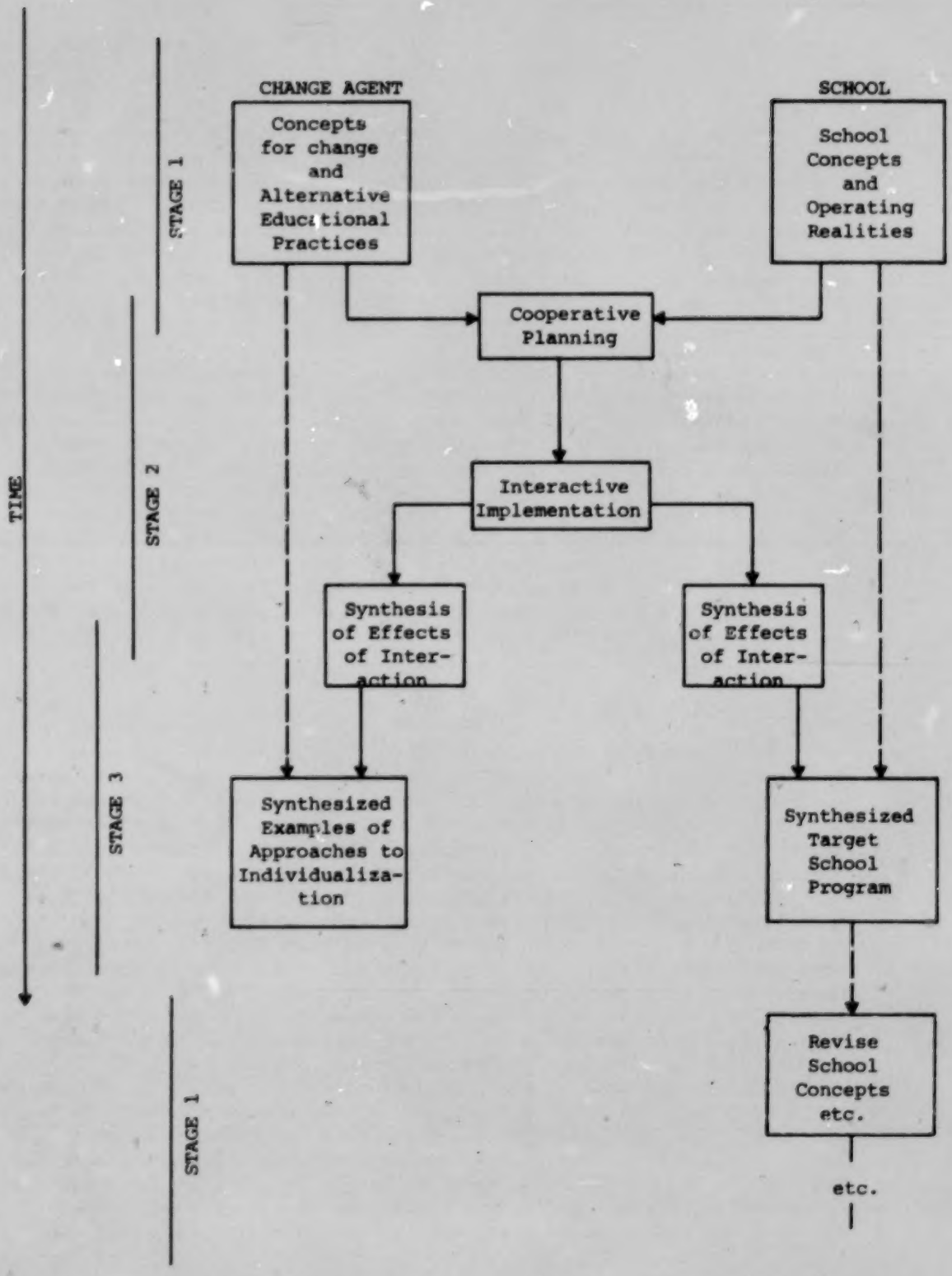

Figure 2. The Research Model for IGE/S.

concepts, ongoing operations, and formulations, and in cooperatively planning toward a future implementation goal. Stage two begins as a result of the cooperative planning effort and progresses toward an initial synthesis by both the change agent and the school. Significant in the model is the fact that more than one synthesis develops from the interaction between the change agent and the school. In stage three the change agent synthesizes examples of approaches for change to individualization; the school synthesizes a target school program which will enable it to focus, move, operate, and develop this program within its operating realities.

This research model has its foundations in theoretical concepts of systems design, philosophy, and psychology. A simple psychological concept illustrates this approach. When two people are involved in a close relationship, there are, in essence, three component parts of that relationship. Two parts may be characterized in terms of the individual identities of each individual, and the third part is that which is developed and shared between the two. Over time, while the interaction component grows, each person also develops his own individual identity. The concept of developing one's self by interactively working with another, and by the subsequent refinement and reformulation of the relationship's totality, exemplifies the type of interaction that IGE/S believes takes place over time between a change agent and a school.

Characteristics of the Model

While the basic objective of IGE/S is to develop a program of individualizing for a specific school, the process used for this development is in accordance with the concepts, procedures, and strategies specified in the research model. In other words, IGE/S believes that there is a guiding set of philosophies, along with a process approach that includes a series of appropriate procedures through which a school's own approach to individualization can be defined and developed. This will lead toward the goal of teacher-to-student individualization that is necessary to bring about reform in secondary schools. Therefore, restating the hypotheses within the context of the developmental research model, IGE/S is primarily a change process that attempts to take a school from where it is and to define cooperatively a target program of individualization that will lead to the implementation of teacher-to-student individualized practices within that school.

To guide the work of the change agent and the school in the interactive process, the IGE/S change process encompasses the following concepts. The first concept is a philosophy delineating important aspects necessary for individualization--continuous progress, shared decision making, and personalized learning. In order to operationalize a continuous progress philosophy there must be recognition that each person has a unique pattern and rate of emotional, intellectual, and

physical growth based on the needs, interests, and background of the individual student.

A second concept of the developmental approach is dialectical in nature. The continued synthesis and operationalization of the IGE/S change progress within a given school's milieu is fundamental and is referred to as a continuing change and improvement program. This becomes the vehicle by which the continuing search for solutions within a given school is maintained over time.

The third concept is a technical assistance program for school personnel that provides the human development skills, the planning and decision making skills, and the conceptual knowledge necessary to operationalize the philosophy surrounding the concept of individualization.

Representative technical skills are planning, decision making, management procedures, systems design, formulation of timelines, evaluation design, and priority setting. Representative human development skills are communication (talking about self, listening, talking to others), sharing, value clarification, acceptance of others, establishing helping relationships, and group process techniques. Representative conceptual knowledge relates to continuous progress, shared decision making, organization theory, principles of change and improvement, mastery-learning outcomes and practices, individualized and personalized learning alternatives, interdisciplinary teaching concepts, grouping techniques, instructional programming model operation, action learning, and peer teaching.

PLANNING FOR CHANGE IN THE SECONDARY SCHOOL

In this section we will discuss in more detail particular concepts and methodologies for carrying out specific activities that are beneficial and necessary for bringing about teacher-to-student individualization within the secondary schools. First, the starting point for bringing any specific school and the change agent together to search for solutions is planning. Most people accept the notion that planning is appropriate, beneficial, and helpful in terms of defining a direction and carrying out activities. Planning has long been utilized in schools--in the basic classroom unit in terms of lesson plans, goals, objectives, etc. and in the larger educational organization in terms of planning commissions, school committees, goals, directions, objectives, program committees, curriculum improvement committees, etc. However, when we say planning is important, what do we really mean? Are there definable concepts, procedures, and approaches that can be used in planning?

IGE/S believes that planning can be viewed as a defined and formulated activity that is based on theoretical concepts of how the world operates and that reaffirms the importance of people within that world. Planning can be specified in terms of a series of process-oriented procedures that enable groups of people to come together effectively, search for solutions, and obtain the kinds of results that are necessary in secondary schools and elsewhere to avoid the problems of future shock.

Planning as a Purposeful Activity

For IGE/S, planning[6] is viewed as a means to carry out a purposeful activity. What are purposeful activities? Figure 3[7] identifies three sets which represent some of the major purposeful activities carried out in our daily living. It is important to note that while these purposeful activities do overlap, they provide a categorization and a separation that is essential when determining which approach is most appropriate.

1. One purposeful activity is to develop systematic knowledge--to develop generalizations, theories, or laws. This approach is demonstrated most clearly in the field of science and typically has been formulated in terms of the "scientific method."
2. A second purposeful activity is to develop a purposeful situation-specific solution; in other words, to find a solution which will achieve a specific purpose in a particular situation.
3. A third purposeful activity is to operate a system (or program) at a desired level of effectiveness. The approach most closely related to this activity is operation or control; that is, the concept of management. Attempting to develop a theory, law, or generalization differs from operating a system at a desired level of effectiveness. Although these activities may overlap, it is more useful to consider them as separate.

In order to translate some of these ideas into the day-to-day reality of secondary schools, consider the following. A great deal of time is spent on the purposeful activity of operating a system at a desired level of effectiveness, be it a classroom, a school, or an individual student's program. A substantial (but smaller) amount of time is spent on seeking situation-specific solutions, such as developing lesson plans or curriculum approaches, or laying out goals and objectives for individual students. Relatively little attention is given to developing systematic knowledge, an effort which is carried out primarily by specialized research agencies. IGE/S believes that the most important and regularly occurring purposeful activities within secondary schools are related to (1) planning, and (2) management and control. Furthermore, the two activities must be sequenced. Planning must take place first in order to determine the desired effectiveness level. Thereafter, management and control can be used to implement the plan. Consequently we can delineate two major activities that go on in a school--planning school processes and working with students.

Planning school processes. Planning in the IGE/S framework is systematic and addresses five issues:[8] (a) the strategy to be followed: "What do I do to plan, to individualize, to develop students, etc.?"

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[6]The word planning is used in a specific context in the remainder of this paper and is based on the complete analysis and specification of systems design given in Nadler, 1970.

[7]Adapted from a chart in Nadler, 1975 (a).

[8]These five issues are modifications of aspects of planning discussed in detail in Nadler, 1970.

APPROACH ISSUES	DEVELOP SYSTEMATIC KNOWLEDGE	OPERATE A SYSTEM AT DESIRED EFFECTIVENESS LEVEL	DEVELOP A PURPOSEFUL SITUATION-SPECIFIC SOLUTION
1. STRATEGY			
2. LEVEL AND AMOUNT OF INVOLVEMENT OF PEOPLE			
3. ROLE OF ORGANIZED KNOWLEDGE			
4. SOLUTION SPECIFICATION FORMAT			
5. LEVEL OF EFFORT IN CONTINUING SEARCH FOR CHANGE AND IMPROVEMENT			
	RESEARCH	PLANNING AND DESIGN	MANAGEMENT AND CONTROL

Figure 3. Relating purposeful activities, approaches and approach issues.

(b) the framework for organizing necessary specifications: "How do I do it?" (c) the involvement of necessary people: "Who do I do it with?" (d) the role of organized knowledge: "What practices and procedures do I use?" and (e) the need for continuous change: "How do I improve what I do?"

Specific procedures for addressing each of these issues require teams of teachers to have necessary planning skills and sufficient time for planning. These teams must plan continuously (develop, maintain, and dynamically update) at three levels: (a) the school level, concerning the overall direction and functioning in terms of individual and professional growth and sustained group operation, (b) the team level to develop learning programs, and (c) the student level, concerning a personalized learning program for each student.

Working with students. Working with students is the primary process in any IGE secondary school. Essentially, this process incorporates the use of individualized and personalized learning programs that

1. operate within a continuous progress mode; that is, educational programs that operate on the principle that learning is continuous and varies in rate for each student
2. use a shared decision making structure; that is, educational programs that operate on the principle that anyone affected by a decision has the opportunity to participate in making that decision
3. utilize a competency learning approach; that is, educational programs in which skills and concepts specified by both students and teachers are mastered. Evaluation is performance-based rather than norm-based.

Procedures for Planning

We have discussed three major purposeful activities that go on in varying degree in secondary schools. For each of these activities, a process approach can be defined and followed. The three process approaches, simply stated, are planning, research, and management. It was stated previously that the starting point for IGE/S is planning which can be defined in terms of five aspects--one for each issue presented above. These aspects when considered as a whole and interrelated with each other provide a complete conceptual framework, as well as a series of specific procedural activities. The five aspects that comprise the IGE/S approach to planning are as follows:

1. A Purpose-Target-Results (P-T-R) Strategy. This aspect is a strategy for seeking a solution to a problem. This strategy is defined by a series of procedural guidelines that cover five phases of action. It provides a direction for moving from determining a solution to implementing the solution in an operating school. The strategy is flexible, interactive, and capable of recycling through previous phases as required. It provides a guide for the entire problem-solving processes that consistently focuses the attention of those involved on achieving the maximum results from any effort.

2. Involvement. This aspect consists of a philosophy and a set of guidelines that are integrated with the P-T-R strategy to ensure that the most effective and efficient solution is actually implemented. Finding a solution to a problem and obtaining acceptance for it from superordinates, or from those who make it work, depend on appropriate and meaningful involvement of people in the planning process. A change agent acts as a process facilitator, for example, as a catalyst and coordinator. By actively involving personnel in planning to determine the solution to a problem, a stronger commitment to the proposed solution is probable.
3. Organized Knowledge, Models, and Techniques. This aspect is concerned with the introduction of new or innovative practices only in response to a specifically identified problem or need. The IGE/S planning approach introduces new or innovative practices only when the need for them is indicated by the strategy and the people involved, rather than seeking problem areas where the techniques can be applied. Effective planning does not begin with new knowledge, models, or techniques; rather, it first determines the purpose to be achieved, the information which is needed, and the decision to be taken before deciding how to employ the available knowledge, models, or techniques.
4. A Solution Framework. The solution framework aspect is an organizing matrix that identifies all aspects that should be considered in arriving at the solution to any problem. It is a prescriptive framework consisting of eight system elements described in six dimensions. (An overview of this framework is given in Figure 4.[9]) It provides a convenient format for guiding planning as the strategy phases are followed. The solution framework ensures that important considerations will not be omitted and that possible consequences will not be ignored. Complex planning can be handled effectively and completely by appropriately interrelating several of these solution framework matrices.
5. A Program of Continuing Change and Improvement. The four previous aspects are sufficient for achieving the purposeful activity of finding a situation-specific solution to a problem. However, in order to deal with the notion of constant change, a fifth aspect is needed to integrate the first four aspects into a continuing search for solutions to the problems which confront secondary education today and in the future. This approach facilitates the continued improvement of solutions in the face of changing circumstances. If, as we stated earlier, change is constant, each school needs to establish a planning process that facilitates a search for solutions to problems arising from constant change. Unfortunately, people often believe that satisfactory solutions to today's problems also will suffice for tomorrow's. This attitude often leads to a cyclic pattern of "patching up"

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[9] Adapted from a chart in Nadler, 1975 (a).

SYSTEM DIMENSIONS

SYSTEM ELEMENTS	FUNDAMENTAL basic characteristics system will have	CONSTRAINTS limits to be imposed: goals, criteria, number, time, etc.	INTERFACE how it relates to other elements or systems	EVALUATION how it will be assessed to see if constraints met	MANAGEMENT how it will be organized and controlled	FUTURE STATE anticipated changes in system characteristics
PURPOSE primary focus, aim or concern						
OUTPUTS that which results from processing by the SEQUENCE	*must be such that purpose is achieved*					
INPUTS that which is to be processed within the SEQUENCE						
SEQUENCE actions or steps for processing INPUTS into OUTPUTS						
SETTING the physical, social and attitudinal environment of the system						
INFORMATION CATALYSTS sources of information: books, films, etc.						
HUMAN AGENTS people needed to operate the system						
PHYSICAL CATALYSTS necessary equipment, supplies and facilities						

CATALYSTS AND AGENTS

aid in processing INPUTS into OUTPUTS without becoming part of the OUTPUTS

Figure 4. Solution framework.

old situations until a crisis emerges which requires large amounts of energy and time and too frequently results in the application of another patch. The IGE/S planning approach emphasizes a problem solution which will accomplish a specified purpose in order to break this cycle. It is essential that schools develop a planned program of periodic review and redesign, even if they are currently performing very well. A solution or plan must be regarded as transitory, suitable only at the time of its definition. It is the belief of IGE/S that the correction of difficulties and the development of solutions to emerging problems can best be achieved through a continuing change and improvement program.

Phases of the Planning Strategy

The five aspects discussed above, when interrelated and taken as a whole, describe the IGE/S approach to planning. The essentials of this process are found in the five phases of the P-T-R strategy. These phases are basically procedural descriptions of what the facilitator does when confronted with statements such as "We have to develop a plan for ---," or "We have to find a specific solution to the problem of ---. What do we do?"

Phase I. Establish a direction. In this phase, the process facilitator and the group of people with whom the facilitator is working determine a necessary purpose to be achieved. This purpose is then placed in the context of the more encompassing purposes of the activity under study. From this hierarchy of purposes the focal purpose for the planning effort is selected and a series of outcomes are defined. That is, the group lists the specific goals and objectives that categorize the major purpose to be achieved. These goals and objectives then become the measures of effectiveness which are used to evaluate the various solutions which are proposed.

Phase II. Generate possible solutions. Using the focal purpose, the planning group identifies a variety of ways, using various brainstorming and nominal group processes, in which the selected purpose might be attained. Various techniques are employed to aid the planning group in generating as many alternatives as possible.

Phase III. Organize the best solutions into a target. In this phase, the variety of ways of achieving the purpose generated in Phase II are categorized and arranged into possible target models. A target is a solution that addresses only the regularity conditions, that is, those circumstances which occur most frequently or which are considered most important. The measures of effectiveness generated in Phase I are utilized to select the best target. This model becomes the guiding framework for Phases IV and V, as well as for the subsequent management of the installed system.

Phase IV. Detail the target into a recommended solution plan. In this phase, the planning group or subgroups add the details and irregularities needed to deal with all possible real-world conditions. The result of this phase is a recommended solution detailed to the degree

necessary for testing and implementation. A complete review of the plan to this point is also an integral part of this phase.

Phase V. Install and implement the planned solution. This phase involves the usual activities required in implementing any new or revised plan, such as training, purchasing, or developing necessary materials and equipment, and debugging, installing, and establishing performance measures.

The purpose-target-results strategy minimizes the amount of information gathering necessary to plan a high quality solution to a problem and is acceptable to the people who must accept and use it. The time invested in the process ultimately is used to develop a needed and workable plan.

Comparison of the Planning Approach to Approaches for Other Purposeful Activities

For each of the three broad types of purposeful activities discussed earlier, there is an appropriate general approach. In the case of discovering theories, laws, or generalizations, the research approach is most applicable. Basically, this approach consists of a strategy such as this: (1) identify an area of interest; (2) make observations for analysis of the area; (3) establish a hypothesis or generalization; (4) verify the hypothesis. This generalized research strategy has been useful in expanding knowledge and in developing understanding of both ourselves and the material world in which we live. It has produced impressive results in fields such as science and mathematics, and more recently, social and behavioral sciences.

It should be noted, however, that this strategy is most effective for a particular purpose, expanding knowledge, and sometimes has been mistakenly used as the guideline for planning and management activities. This can be seen by examining a conventional strategy used in planning: (1) select a system where a problem exists; (2) analyze or learn about the existing system; (3) determine what is wrong and suggest changes; (4) recombine the elements into a new system. This format of problem identification, needs assessment, and incorporation of innovative or new ideas into an existing system has been widely used in the secondary schools, as well as in society at large. Because of the successful results it has obtained in terms of expanding our knowledge of the world, it is natural that this approach has been followed. However, the use of this approach in defining specific solutions for specific needs often has not led to the development of appropriate solutions and, in some cases, has compounded the problems that currently exist in secondary education.

Why has this occurred? We believe that the conventional planning strategy has at least three shortcomings. Each of them will briefly be discussed.

1. An emphasis on analysis implies that already existing systems are the ones to be analyzed. If one starts from the point of view that we have to analyze something, the most readily available thing to analyze is that which is currently operating.

Therefore a great deal of time, energy, and effort will be focused on what currently exists, when in fact it may be more productive to think about the direction in which a particular school ought to be headed. An analysis forces what is to be the standard reference point, rather than what ought to be. In many schools today, as well as in all other areas of society, typical phrases heard in any planning group are "It can't be done," "It won't work here," and "That's not possible because of all the complications." However, history is replete with examples of things that "could not be done," which were done when people collectively and cooperatively came together and attempted to do them. We believe that the planning process in secondary schools should help people focus on what ought to be. It is this focus that will lead to the development of more effective programs and thus solve many of the problems we face today.

2. The emphasis on analysis tends to focus on the components of any program rather than on its wholeness. In secondary schools, one finds many programs developed from a reading aspect, a social studies aspect, a physical education aspect, or a study hall aspect, rather than concentrating on what the school as a whole should accomplish to achieve the desired results of educating the total individual in order that the individual may develop as a contributing member in society.
3. In the conventional planning strategy the emphasis on analytical tools tends to create a gulf between the "experts" who apply the tools and the majority of persons who are unfamiliar with them. In education, as in most other fields, there are "experts" with their own particular approaches and techniques. However, since most people do not understand these tools and techniques, they are often suspicious of them and reluctant to utilize them. While these approaches and techniques often represent more effective ways of operating, the separation between the planners and decision makers and the people who must use and apply the concepts and techniques is so great that often people who may benefit the most are the most resistant to any change or development. This can readily be seen in the field of education, in which over the last twenty years thousands of innovative, creative, and effective practices have been developed that, for the most part, remain as written documents on the shelves of instructional media centers.

A Program of Technical Assistance for Secondary Schools

To utilize the concepts presented above and incorporate them into a continuing change and improvement program which becomes an integral school operation, the project believes that a supportive program of technical assistance is needed. The technical assistance program must begin with

the school as it presently exists and help it move towards teacher-to-student individualization. To do this, and to reach the goal of a continuing change and improvement program (CCIP), it appears necessary to provide the persons (i.e., teachers, administrators, students, and parents) who work in or are affected by the school with skills that can aid in formulating appropriate mechanisms to operationalize the basic concepts of IGE--continuous progress, shared decision making, and personalized learning.

The three central aspects of such a technical assistance program are concerned with (a) planning and decision-making skills, (b) human development skills, and (c) conceptual knowledge of practices appropriate for IGE middle and secondary schools. These three aspects are stressed because we believe that people, rather than organizational structure or curriculum, are the most fundamental factor in any secondary school. Therefore, to enable a school to search effectively for effective solutions to its own problems, it is important to provide the people who comprise the school with a variety of procedural skills and concepts which can facilitate their own daily work and enable them to move forward in terms of defining programs and procedures that meet the needs of individual students.

Planning/Decision-Making Skills

Previously, it was stated that planning provides a point of departure in the search for solutions to problems in secondary schools, and the general strategy that we believe is most appropriate for the planning activity was outlined. The most important consideration is that through planning, a target program is developed which can serve, over time, to guide the effort and to focus attention upon the desired results. In other words, planning is a vehicle which helps people in the search for appropriate solutions by establishing a target or goal toward which they will work over time. Planning is important not only because the process moves people toward effectively defining common goals, but also because it moves people toward defining what ought to be, which will keep efforts moving in a positive direction, i.e., toward the target.

These two ideas, a target program and time, can be formalized to demonstrate how it is possible for secondary schools to begin where they are at the present time and move, over time, to achieve the desired result of teacher-to-student individualization. To do this, two key concepts in the planning system are helpful: the systems framework and the concept of a time line. As stated earlier, the systems framework (an 8 x 6 matrix) provides a means by which any program can adequately be described. In fact, the systems matrix can serve to describe the target program when the appropriate details are filled in for each cell in the matrix. Although time aspects are included in various parts of the matrix, explicit treatment of the concept of the passage of chronological time, in the form of a time line, also is necessary. The passage of time, as embodied in a time line, is important for it enables one to gain a better understanding of the sequence of events involved in a program designed to change secondary schools.

Figure 5[10] demonstrates schematically the relationship between the target program and the concept of time in the planning process. A represents the time line, B arbitrarily locates the present. For example, B could be a description of the present secondary school program. Positions C, B, and E convey the notion that the same systems matrix can be used to describe how the program was (C), how the program is now (B), and how it ought to be (E). Thus, E represents the target program.

The systems matrix affords a way to describe a particular program at a particular point in time and thus represents a static or snapshot view of the program. However, the important aspect is not the static or snapshot view, but rather the changing and dynamic nature of the program and its relation to the target program which serves to guide the development of the program, for example, points B_1 and B_2. As the school moves through time from B to E, the target program specifies a goal to be reached by working with and consequently modifying the present program as time progresses.

We believe that the focus of secondary schools should be on E (how the school ought to be), since one of the school's primary functions is to provide today's youth with the conceptual knowledge and skills necessary to maintain and operate society in the future. This approach of having schools themselves, through a planning strategy and process, formulate appropriate future targets and then work towards these targets over time is the IGE/S mode. Further, the concept of a target plan integrated with work toward that target and subsequent modification of the target over time, forms the core of a continuing change and improvement program that we believe is necessary to achieve meaningful teacher-to-student individualization. In addition, by utilizing a planning approach that develops the criteria which serve as measures of its own effectiveness, and by transferring these skills to individuals who work in or are affected by the school, it is believed that appropriate decisions can be made, relevant information for any particular planning needs can be gathered, and the continual search for solutions can become an integral part of the daily operation of the secondary school.

Human Development Skills

The above discussion of the planning strategy used to develop targets is interrelated with the involvement of people in developing and working to achieve the targets over time. This leads to a second important aspect of the technical assistance program that is perceived to be beneficial to practitioners. While we believe that planning and decision-making skills are essential, skills in the areas of communication and interpersonal development also are necessary. The emphasis on involvement of people in planning requires that attention be paid to the personal and professional growth of school personnel and, in addition, it requires alternative ways for groups to work together to understand both the individual and the collective needs that arise over time. Consequently, the second facet of the technical assistance program addresses the task of providing all school personnel with appropriate human development skills that enable them to carry out effective daily operations.

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10 Adapted from Figure 4 in Nadler, 1975 (b).

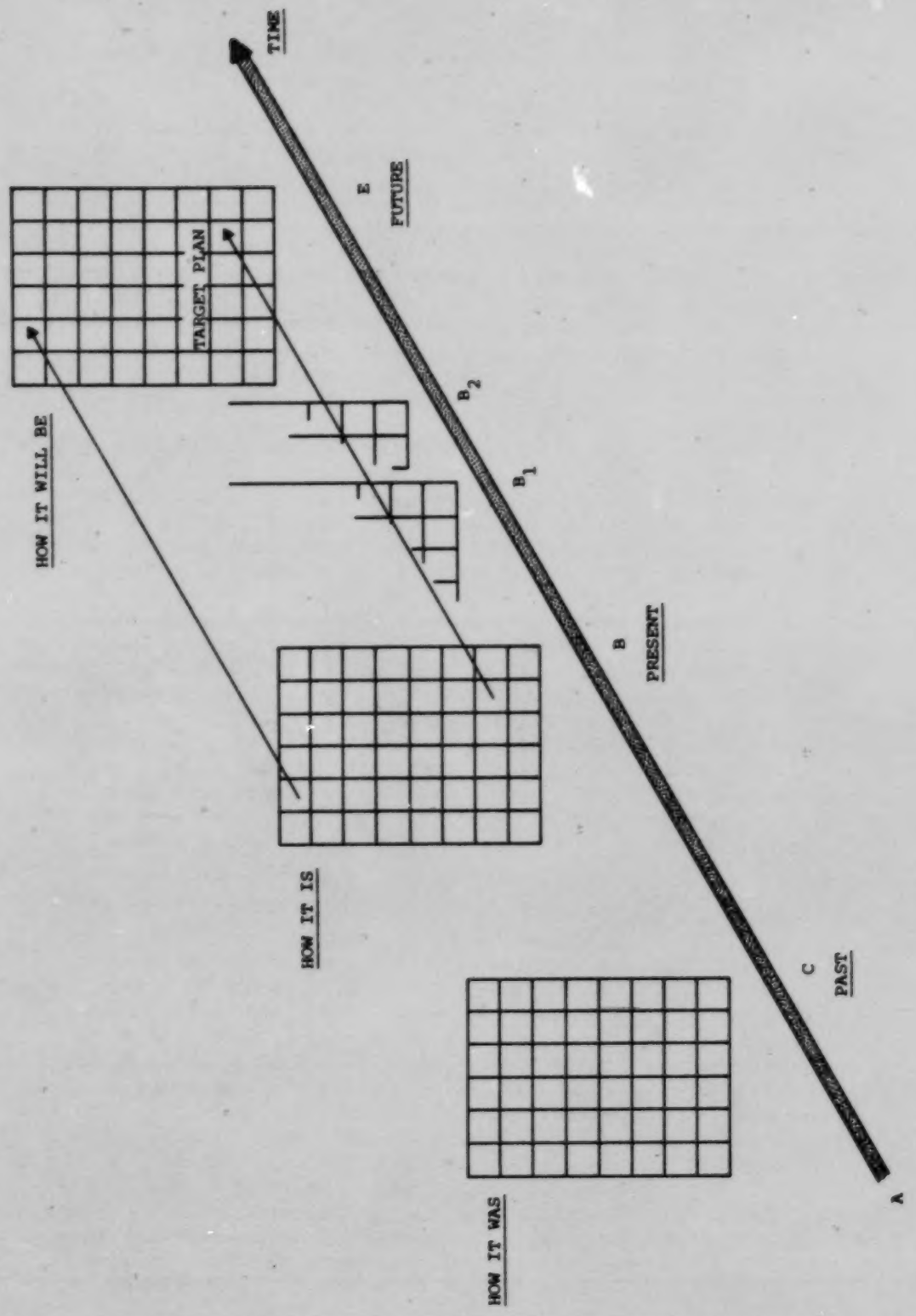


Figure 5. Target and time line concept of planning for the future.

If groups of people are to plan successfully, they must be able to communicate and deal effectively with each other as human beings and maintain the necessary communication over time. To achieve this essential communication, skills are needed by school personnel in the following areas:

Get acquainted skill. The get acquainted skill is the ability of "strangers" to come together in groups and easily and effectively to develop and maintain an understanding of each other as people. This skill becomes especially important for groups operating within schools, because such groups tend to vary in membership from year-to-year as well as day-to-day.

Talking about self, listening, talking to others. The individuals comprising the variety of groups which are needed to maintain a continuing change and improvement program need to be able to talk about themselves in a free and open manner. This skill enables other group members to become aware of individual needs and desires. Further, people need to be able to listen and hear clearly what other individuals are saying. Group members also need to combine these speaking and listening skills and to engage in dialogues in a format that allows creativity and critical thinking to emerge in an open and honest manner.

Sharing. The individuals who comprise any group need to have sharing skills. Members need to share their ideas, both about what they have done or about what they can do, in order to help each other develop alternative ideas as they search for effective and appropriate educational practices.

Trust building. We believe that trust-building skills are necessary and that trust is developed over time according to a continuous progress mode, i.e., there are natural highs, lows, and plateaus. In order to maintain an effective group operation, the lows that naturally appear should be handled through a planned program of interaction and trust building. If they are not recognized and dealt with, these natural lows and plateaus can contribute to operational difficulties that may even lead to the disintegration of the group.

Value clarification. All individuals in society have their own set of explicit and implicit values. In order for groups to cooperatively plan the directions they will pursue, it is beneficial to share in the identification and clarification of all group members' values. It should be recognized that in a pluralistic society there is no one set of "right" values, i.e., values which everyone accepts; to ignore the differences in values that exist among group members will lead to difficulty. Consequently, a program of value clarification can be beneficial in maintaining the group's progress toward achieving the school-defined target program.

Acceptance skills. Certain acceptance skills are associated with value clarification. We maintain that individuals will and should continue to defend and act on their own values; it is not the role of value clarification to have all people develop the same values. However, in any group, people's differing values should be accepted as legitimate. It is possible to capitalize upon such differences in developing the specific alternatives that are necessary if the school is to respond to individual differences among its students, staff, and parents.

Group problem-solving skills. Once a group has developed mechanisms for achieving the first six skills, its members should be able to effectively provide "helping" relationships to each other. It is also necessary

to develop the group problem-solving skills that are fundamental in maintaining the dynamic operation of any group as it attempts to deal with the problems associated with the differing needs of its clientele.

In summary, we believe it is important that all of these skills be viewed as part of a total development effort necessary to maintain effective group planning. Furthermore, in order to deal with the difficult problems confronting education today, these skills must be maintained and enhanced over time, just as planning must be maintained in a continuous change and improvement program. Taken together, the planning, decision-making, and human development skills lead to the development of specific programs that will make each secondary school more effective in terms of responding to both present and future needs.

Conceptual Knowledge

The conceptual knowledge aspect of the technical assistance program is aimed at providing information about alternative programs, practices, and procedures that will help school personnel move toward the target program they have specified. While it is important that each school start where it is at the present time, it is not necessary that every school re-invent the wheel in terms of new programs, procedures, or practices. A great deal of knowledge related to individualization already exists; it needs simply to be compiled and made available. The alternative practices and procedures that currently exist demonstrate a variety of ways in which a school can move toward learning programs that strike a balance between affective, psychomotor, and cognitive outcomes leading toward the balanced development of each student. Information concerning many sound alternative practices which facilitate individualization can be made available to school personnel as they plan their own target program, thus broadening their perspective and providing an opportunity for professional growth. We believe that the multitude of individualized concepts and programs which currently exist can be utilized by school people. It is by making reference to what already is known that people can discover and begin to work with sets of practices that are most appropriate for achieving their specified results, as well as find the solutions needed to prepare students to live and operate in our future society with minimal risk of future shock.

SEQUENCE OF CHANGE FOR THE SECONDARY SCHOOL

To review for a moment: We have discussed a variety of concepts that we believe are both appropriate and necessary for schools wishing to move towards individualization. We have specified a research model that calls for a change agent and a school to work interactively over time in developing appropriate individualized practices for the school. In addition, we have specified a cooperative relationship between the change agent and school personnel that will facilitate the development, refinement, and implementation of those practices over time. In this section we shall describe a generalized sequence of operations that can be carried out to achieve the desired results. We will also discuss a series of specific activities that are both appropriate and helpful in

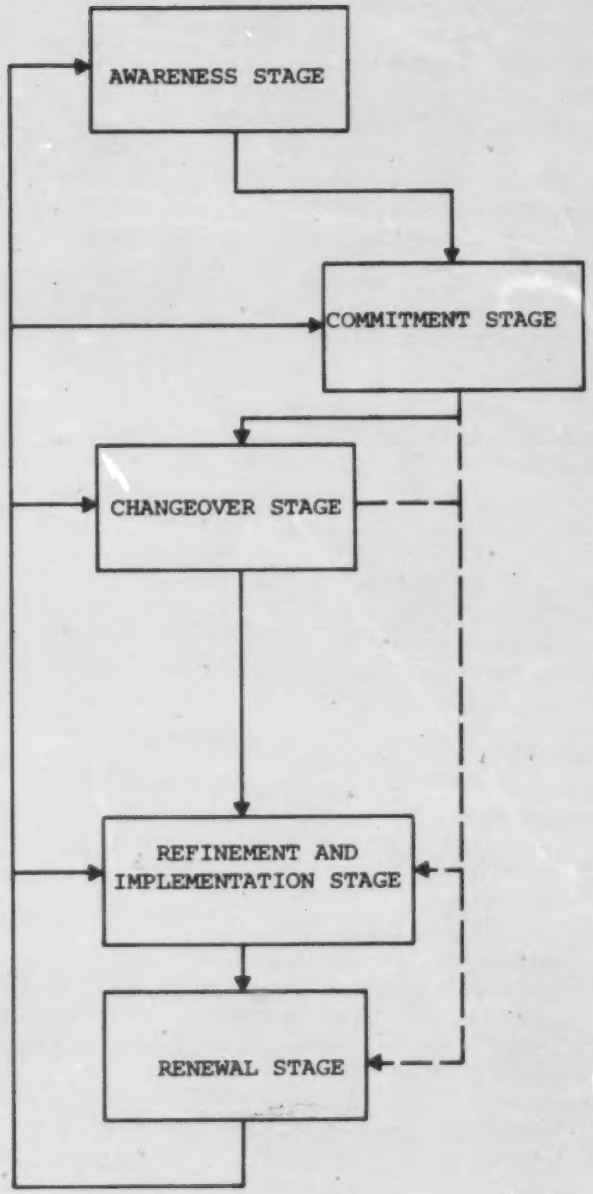
developing a cooperative working relationship between a change agent and a school. The ultimate purpose of this working relationship is, of course, to aid the school to develop and implement its own target program of individualization that subsequently will lead to an ongoing continuing change and improvement program in the school.

This discussion will deal with a generalized sequence of change for secondary schools. The basic research model as specified above will form the framework for this discussion of sequence. The focus will be on the change agent's interaction with a specific school over time. Another document will detail the specifics of the roles, activities, and procedures that can be utilized by the change agent or "process facilitator." Therefore, we shall describe what should be done and what purposes are to be achieved by carrying out the specific activities. Particulars on how to carry out these activities along with a variety of factors that are of concern to a process facilitator will be treated in the "Implementation Manual."

The Stages of Change

Basically, there are five major stages in the sequence of change. These are represented graphically in Figure 6 and consist of (1) an awareness stage, (2) a commitment stage, (3) a changeover stage, (4) a refinement stage, and (5) a renewal stage. A brief discussion of some general concepts involved in this set of five stages is in order. First, there is no specified beginning or end point for any of the stages. Second, the stages do not necessarily flow in the sequence shown. For example, it is possible at any time to recycle to the commitment stage, which in a sense runs throughout the entire cycle. Third, the sequence of five stages represents only one cycle of activities; recycling is expected to go on continuously. That is, the process is not completed by passing once through the five stages, but may be repeated by reentering at a variety of points. For example, it may be important to return to the awareness stage, to the commitment stage, or to some aspect of the changeover stage as the school staff or clientele changes or as new problems arise. Finally, each stage within the sequence can be placed in the context of the three-stage research model, i.e., each of the five stages can be considered as consisting of three stages of interactive work between a change agent and a specific school which result in implemented target programs as products of the activity.

Awareness stage. The awareness stage involves bringing together a change agent and a specific school wishing to "do something" about individualization. We assume that the change process can only begin with a school in which there is some degree of dissatisfaction with the status quo and a search for viable alternatives. The school may exist at any point on a continuum from a strong traditional orientation to an open, innovative, and individualized orientation. From the change agent's perspective, the interaction with the school ought ultimately to lead toward teacher-to-student individualization. However, the idea of searching for alternatives is important because it indicates that the change agent will work with any school, at least initially, rather than limiting interaction to a certain set of schools. Thus the major criterion for involvement with IGE/S is that a school wishes to "do something" about individualization.



STAGE PURPOSES

- to emphasize the process that obtains answers rather than to provide answers
- to begin the involvement of people
- to initialize a working relationship that allows for dynamic modification
- to provide for inschool capabilities for continued change and improvement
- to cooperatively define a changeover plan
- to develop a school's target plan for individualization
- to refine the target plan into an installed and operating program
- to refine the implemented program as the beginning of a continuing search for solutions

Figure 6. Sequence of activities for change.

During the awareness period two factors are emphasized. First, the change agent must emphasize that any subsequent work with the school will be designed to develop the process skills school personnel will need if they are to obtain the answers they are seeking. That is, we believe it is necessary to provide school personnel the skills and techniques which will enable them to engage in a continuing search for solutions to problems. In the same vein, it is important to specify that the change agent does not have a set of pat answers for a particular school. The unique needs and conditions of that school will be best interpreted by the people who comprise the school community.

The second factor emphasized in the awareness stage is that it is essential to involve the persons who will be affected by a change program in the development and implementation process. If a school wishes to undertake a series of change activities, school personnel must be involved in order to effectively develop answers that are most appropriate for that school. During this stage the change agent will also specify general values and goals in terms of individualization. It is crucial to subsequent effective cooperation that the change agent avoid a hidden agenda. The approach to individualization which we value is embodied in the concepts of continuous progress, shared decision making, and personalized learning. However, these concepts must be balanced with the value position that the school must, through cooperative planning, determine its own approach to individualization.

At the organizational level, the awareness stage involves meetings in which the change agent presents to school personnel a variety of ideas concerning the concepts, philosophy, and sequence of change. (The number of meetings will be determined by the particular school situation.) The change agent's presentation is followed by a question-and-answer discussion. During this period the framework and basis for how the change agent and the school will interact to develop necessary trust is emerging. The goal of the awareness stage is to have school personnel perceive that they are ultimately responsible for the content of the programs that are developed and implemented.

Commitment stage. This stage is probably the most amorphous in the change sequence, yet it is important to identify it as a separate activity. In one sense, the commitment stage extends throughout the change sequence because, although formal commitment may be made at some point in time, actual commitment is not maintained at a constant level. In keeping with our view that continuous progress involves identifiable highs, lows, and plateaus, we believe that commitment is maintained over time only if the parties are obtaining the results they feel are necessary for achieving their personal goals and objectives. Therefore, while the commitment stage begins at some identifiable point, it must be given attention throughout the total cycle and sequence of change activities. It is operationalized most appropriately in terms of a series of negotiated agreements or contracts that specify for a period of time the roles of the change agent and the school and the results that are to be obtained. The contract may be renegotiated at the end of the specified period, or at any point during the period. The model of contracting adopted here is that frequently used between teachers and students. Specifically, a series of goals and objectives are cooperatively laid out, mechanisms for reaching these goals and objectives and assessing their attainment are cooperatively defined, and a recycling process

to determine a new set of goals and objectives takes place. Obviously, at some point in time during the change process the new set of goals and objectives may be of such a nature that the school and the change agent will become so divergent in their views that it is better to discontinue the process than to force it to conclusion. This is an inherent danger in the IGE/S process.

Changeover stage. The changeover stage consists of three separate but interrelated activities which we believe are vital if the school is to achieve the ultimate goal of self-renewal for continuing change and improvement independent of the change agent. We believe that it is important to build or strengthen the capabilities of school personnel so that they can gradually assume the primary responsibility for planning and implementation of appropriate individualized solutions. In any school, the planning and implementation activities necessary to obtain the desired individualization results require both large-group work and subsequent delegation to smaller groups of responsibility for generating the specifics necessary to develop and implement a specific plan. Individuals within the school who possess the appropriate skills can provide leadership to both the large and small groups that are required.

Training in conceptual knowledge. This training has as its purpose the development of a group of in-house (i.e., within school) personnel who have knowledge of the concepts and procedures related to the IGE/S change program. The training activity is designed to impart an understanding of the planning process and the concepts associated with human development skills that are necessary in order to achieve a continuing change and improvement program in a school. This training activity also provides an awareness of the various individualized practices that are extant and that might appropriately be utilized by a school in developing its changeover program. This training is important not only to develop the in-house capability of the school staff, but also to provide a core of individuals who can work cooperatively with the change agent to carry out the activities of the changeover, refinement, and renewal stages.

Training of process facilitators. This training activity also has as its purpose the development of capabilities within a school. However, the focus is not on enabling people to be participants in the planning and human development activities, but to be process facilitators for these activities. This training activity encompasses and goes beyond the conceptual knowledge by developing specific skills and awareness necessary for individuals to play an active role in leading large and small groups through the planning and human development process, as well as through the process of defining appropriate alternative practices for the school. We believe that the fundamental differences which exist between being a participant in a planning process and being a facilitator of that process require that facilitators receive specific training for this role. Further, we believe that this training should provide an appropriate balance between conceptual knowledge and practical experience; consequently, it should be conducted in an apprentice format.

Changeover workshop. This activity involves planning and conducting an all-school workshop. The workshop is planned by a group of individuals who come together and cooperatively define a specific chageover workshop for the school. The group includes the change agent, persons who have received training in conceptual knowledge and as process facilitators, and other interested persons from the school. It is important to include

these various individuals in planning the workshop so that it can be tailored to the needs and requirements of the particular school. Through this planning activity the change agent and personnel from the school can develop an initial target program for the subsequent implementation of the workshop. The basic planning process is followed and the result is a school-specific workshop.

The all-school workshop has the two-fold purpose of developing the school's initial target changeover plan and aiding school personnel in acquiring the planning and decision-making skills, human development skills, and the conceptual knowledge necessary to move toward institutionalizing a continuous change and improvement program. The general results to be obtained from the workshop are formulation of an initial school-wide plan for changeover to individualization and a time line of events to take place in the subsequent periods. This workshop provides a means of obtaining total involvement on the part of school personnel. All personnel can be introduced to the process-oriented concepts of IGE/S and can cooperatively define the specific programs they will attempt to implement during the forthcoming period.

Refinement stage. The purposes of this stage are to refine the target stage developed at the workshop in the context of the school's daily operations, to test a variety of alternatives specified in the plan, and to develop the management structures needed to operationalize the previously defined plans. During this crucial stage of the change process the new skills and concepts presented previously must be internalized and operationalized by those involved with the school. It is during this period that the unique structures and manifestations which are necessary to integrate the new concepts and approaches into the school's operating procedures are developed. It appears that this stage generally will involve the establishment of a variety of task forces to plan and carry out necessary details so that the generalized plans become a workable system that can be implemented, tested, evaluated, and refined. It also requires the adjustment and modification of the plans laid out in the workshop based on practical day-to-day experience. Essentially, this is the theory-into-practice period which is crucial to the success of any change program in a secondary school.

Renewal stage. Following the refinement stage the school, in conjunction with the change agent, moves into a renewal stage. The purpose of this stage is to further refine the original plans by moving toward a continuing change and improvement program for the school. This stage continues to utilize the IGE/S change process in a continuing search for solutions to problems. The reality of constant change requires replanning that leads, in turn, to recycling through the sequence of activities. As a result, this stage may lead to a new commitment, additional training, or another changeover stage in which a new set of plans for the school is developed and put into practice.

III

STRATEGIES FOR CHANGE TO STUDENT-SPECIFIC LEARNING PROGRAMS IN SECONDARY SCHOOLS

The general characteristics of an IGE/Secondary school and the planning and design processes to be utilized to achieve these are specified in this chapter. This includes the discussion of program planning processes and the instructional management system to be employed to achieve the philosophy of IGE in a secondary school.

We have included some alternative target goals and practices as examples of what may be done to achieve Individually Guided Education in a secondary school or a component of that school. To aid the reader in the assessment of a school, we have also detailed target milestones. These milestones can serve as indicators of successful implementation of educational programs that provide for each student's balanced emotional, intellectual, and physical growth based on the needs, interests, and background of that individual.

PROGRAM DEVELOPMENT AND MANAGEMENT

The IGE/Secondary school relies upon systematic, dynamic, and continuing planning processes to attain the philosophies and practices associated with shared decision making and continuous learning progress for students. The planning process involved in achieving the targets or goals of an IGE/S school must be humane and must incorporate and develop learning programs that meet the special and essential needs of the community. The IGE/S Project has under development two planning and design processes to aid schools in becoming IGE places of learning. These planning processes specify strategies to be followed by planners. They provide a framework for organizing decisions regarding strategy, provide for the involvement of necessary people, identify the role of organized knowledge regarding appropriate practices and procedures in attaining targets, and build toward a continuous change and improvement capability at the school level.

The tasks which must be accomplished in becoming an IGE/S school require planning and design procedures at three levels: schoolwide, program and/or team, and teacher-to-student. To achieve school and program or team planning, a generalized planning process has been detailed and tried out.

The generalized planning approach initially assists schools to specify school goals and cognitive, affective, and psychomotor outcomes for secondary education. It also assists school personnel to determine the processes and alternative practices necessary to operationalize the philosophies of continuous progress, shared decision making, and personalized learning in order to accommodate student-specific needs and interests.

The second process, a curriculum changeover process, assists the school in the design and planning of learning programs for students. Both processes use a shared decision making mode in that anyone affected by a decision--parent, student, teacher, administrator, or community member--has the opportunity to participate in decisions concerning what, how, when, and where programs will be offered. The learning programs that are planned and designed will operate in a continuous progress mode and will utilize a performance-based learning approach where skills and concepts specified as essential for all learners will be mastered to a specified criterion. Individualization will take place when the dimensions of time and place are varied for each learner and materials and instructional strategies are chosen that match the learner's level of conceptual development and learning style.

To accomplish this, a third process must be utilized. Essential to the successful execution of instruction and learning in teacher-to-student learning programs is an instructional programming and management system that utilizes a client-oriented, diagnostic-prescriptive approach. A model of such an approach has been developed at the Wisconsin Research and Development Center for Cognitive Learning and is presented here in general terms as an example of a programming model that is diagnostic-prescriptive in approach.

Through the planning procedures, parents, students, teachers, and administrators are involved in formulating decisions and focusing upon long-range goals according to the basic tenets of Individually Guided Education, i.e., shared decision making, continuous progress learning, and diagnostic-prescriptive approaches which permit personalized learning. Planning and implementation of the target goals continue at the various stages of the school's development according to three-year time lines and replanning necessities. In addition, planning goals for the institution can be specified at all three levels. Schoolwide planning can assist schools in developing specific target purposes, organizations, and management systems. Team planning can assist in effective team operations and curriculum changeover. Teacher-to-student planning can assist in the development of student-specific learning programs aimed at student needs and interests. It is also essential to understand that each school should be free to tailor programs according to the unique characteristics, needs, and interests of its personnel and the community it serves. The IGE/Secondary Project has identified a set of essential skills necessary for effective school planning on the part of those people who are willing to search for their own solutions to educational change. These include planning and decision-making skills; personal communication, interaction, and leadership skills; and the conceptual knowledge necessary to operationalize the IGE philosophies of continuous progress, shared decision making, and personalized learning.

Schoolwide Planning Process

The first task in the IGE/Secondary schoolwide planning process begins with school personnel and community representatives cooperatively identifying the purposes and goals of secondary school education for the students of the community. When the learning goals of the school have been identified, the school district and community are ready to undertake the second phase of the change process. This phase will be arranged and structured so that the school and community can determine, define, and agree upon a set of cognitive, affective, and psychomotor outcomes that all students will be expected to attain at a specified minimal level.

Figure 7 outlines the steps to be taken in schoolwide planning of an IGE/S school. The school will need to arrange meetings that include parents, other adults, teachers, and students in order to begin discussing, deliberating, and agreeing on the general purposes of the school. Illustrative of the sample purposes that have been identified through the use of this process are:

- to have students who can express their thoughts and feelings
- to build a positive self-concept
- to be able to interact positively and successfully with others
- to have experience in taking responsibility
- to develop basic skills in reading and writing
- to create a positive learning environment
- to develop school programs which develop specific competencies

All of these could be reasonable purposes for a school to achieve. The planning group will then generate ideas of how the selected purposes could be achieved. This decision draws upon the collective creativity and interchange of ideas of group members and should include representation from as many subgroups of the community as possible. Groups within the larger community served by the institution then have the opportunity to become involved and committed to the development of their school's program. The ideas that are generated are then categorized, subgroups are formed into task groups, and a representative decision-making unit starts operating. At this stage, time lines to achieve goals are established, and implementation strategies begun.

To be more specific, let us assume a school district and its community were to function in the process modes stated above. This community would first determine the broad target goals that the students who attend the district's schools should achieve. A "target goal" is a generalized statement that specifies the intellectual, emotional, and physical outcomes that the community expects the school to assist the student in attaining before completion of formal learning experiences. Each school in the district will then take these goals and state the scope, range, competencies, and outcomes to be attained by the students in that particular school.

What are the specific competencies students should achieve by the time they complete the secondary school? What are the cognitive, affective, and psychomotor skills a person needs in order to survive in the future? What information does one need in order to live a satisfying and productive life as a person, consumer, producer, citizen? In other words, what are the desired human outcomes of twelve years of formal education and what skills and information should a student be required to demonstrate as a condition of receiving credits and/or a diploma? We believe that the answers to these questions are best found through a

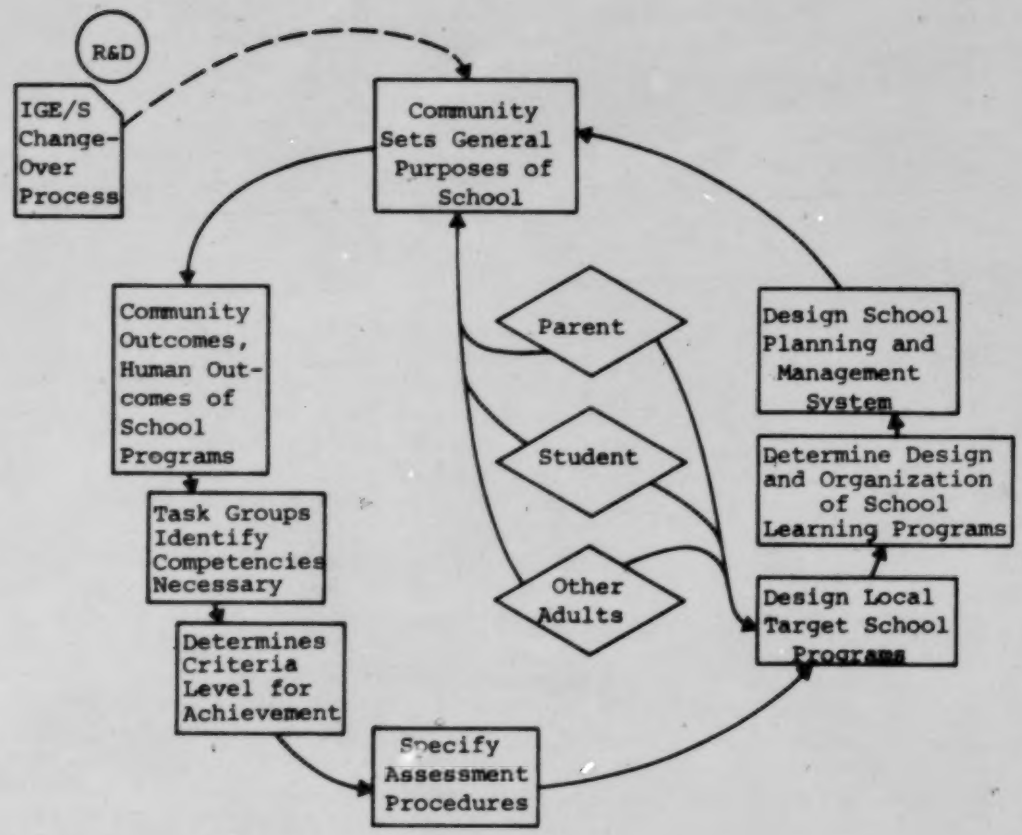

R&D
IGE/S Change-Over Process
Community Sets General Purposes of School
Community Outcomes, Human Outcomes of School Programs
Task Groups Identify Competencies Necessary
Determines Criteria Level for Achievement
Specify Assessment Procedures
Parent
Student
Other Adults
Design School Planning and Management System
Determine Design and Organization of School Learning Programs
Design Local Target School Programs

Figure 7. IGE/Secondary learning program design and planning model (working draft). School improvement cycle: school-wide.

systematic process which provides for active involvement of the people affected: local school personnel, students, parents, and other adults in the community.

With the broad outcomes and the competencies needed to achieve an acceptable performance level identified, the group is ready to discuss and determine the level of achievement necessary to accomplish the specified outcomes. This step calls for the establishment of task groups to identify the basic skills and information necessary for students to achieve competency and future survival.

Each identified program will then be used to determine the range of objectives and the learning activities that will be needed to help students attain the level of competency called for. One obvious outcome of this type of planning is an articulated, K-12 curriculum that provides learning activities which aid students in the attainment of the learning goals of the community. This has been a quest of many school districts.

With the information gained from these two activities, the school staff, in consultation with an advisory group of parents and students, is ready to select or develop a set of instructional procedures and practices to facilitate the achievement of the specified outcomes, purposes, and goals agreed on by the school and community. These practices and procedures, selected from a wide variety of choices available to secondary schools, become the learning programs of the schools.

APPROACHES FOR OPERATIONALIZING STUDENT-SPECIFIC PLANNING

Team-Planning Process

The ultimate purpose of the IGE/Secondary school is to provide each student with the knowledge, skills, and experiences that will enable him or her to develop and carry out life plans that will fulfill his or her individual satisfaction and personal growth requirements as well as contribute to the effective operation and improvement of society. An IGE/S school must therefore provide for the development of the unique potential of each student and the interactive knowledge and skills each will need to function effectively as a member of society.

To assure students and others that an IGE/S school does not become a mechanistic, inhumane place of learning, the planners must provide programs for the acquisition of basic competencies that are completed by all students, as well as programs which allow individuals to pursue their own interests and develop the special competencies they deem important and worthwhile. This goal can be accomplished by employing learning strategies that allow the student to vary objectives, tasks, and degrees of freedom in achieving both the basic competencies and personal choices--in other words, personalized programming for each learner.

In the daily operation of the learning programs of the school, the philosophy of continuous progress can be facilitated through the procedures of performance-based learning and individualized learning modes. The Instructional Programing Model provides a management system, and individualized-personalized learning activities are the instructional techniques that are employed. Many practices are being developed in schools to facilitate individualized instructional programs; however, the IGE/S school considers the development of such practices in a total system-wide

approach as a means of facilitating individually guided learning. To illustrate, picture a stairway that reaches to infinity. At the top is an educational goal or goals which would have been determined by the community and school to be important for a person's well-being or survival in the world. One possible learning goal that could be selected is illustrated in Figure 8. The steps of this program stairway would be the learning outcomes that, when achieved, are indicators of progress toward achievement of an ultimate goal for an individual student.

Beneath each outcome step are several rungs called learning objectives. Each learning objective has associated with it a series of learning activities. The learning objectives are stated in terms of the behavior that would be exhibited by a person who has achieved them. The learning activities are varied and can be such items as short courses, mini-courses, Learning Paks, simulations, learning stations, field trips, experiences cooperatively planned by students and teachers, and contrived or direct experiences in the community. A wide variety of learning options must be offered in IGE/S schools so that students have the option of varying pace, strategies, and materials depending on their personal preferences, needs, and learning styles.

To accomplish the necessary tasks in a mastery-learning/continuous-progress program, the instructional program of the school must be dynamic and continuous, based on the input of and feedback from all members of the learning environment. To accomplish this, the IGE/S school uses a diagnostic-prescriptive learning model to promote student specific programs. This process is called the Instructional Programing Model (IPM) and is the management process used to guide teacher-to-student planning.

The IPM is designed to assist the teacher and student in selecting a sequence of teaching and learning techniques which will lead to the attainment of the chosen objectives as efficiently and effectively as possible. The model (Figure 9) illustrates how a teacher-facilitator or advisor can help students identify and achieve their learning goals through long- and short-range planning with each student. It is an outcome-oriented system based on individualized learning goals, outcomes, and objectives. The four major functions of this system are (1) specification of purposes and measurable performance objectives, (2) pre-assessment for the purpose of diagnosis, (3) determination of instructional objectives and planning of instructional programs, and (4) post-assessment for the purpose of evaluation. When these four functions are arrayed in a cyclical sequence, they provide the feedback necessary to attain performance-based learning.

The student is accountable for demonstrating the knowledge, skills, and behaviors that evidence mastery of the learning outcomes agreed upon at the beginning of the learning sequence. A substantial part of the student's learning program will focus on those types of outcomes. The other portion of the individual's program will be devoted to learning goals and outcomes that the student has determined, with the concurrence of an advisor, to be particularly important. During this personalized portion of the student-specific program, the student will devote time to interests, hobbies, career concerns, or special talents that are unique to the individual. The school, therefore, will need to develop several programs to help an individual student achieve the school-determined goals, outcomes, and learning objectives. Among the programs a school

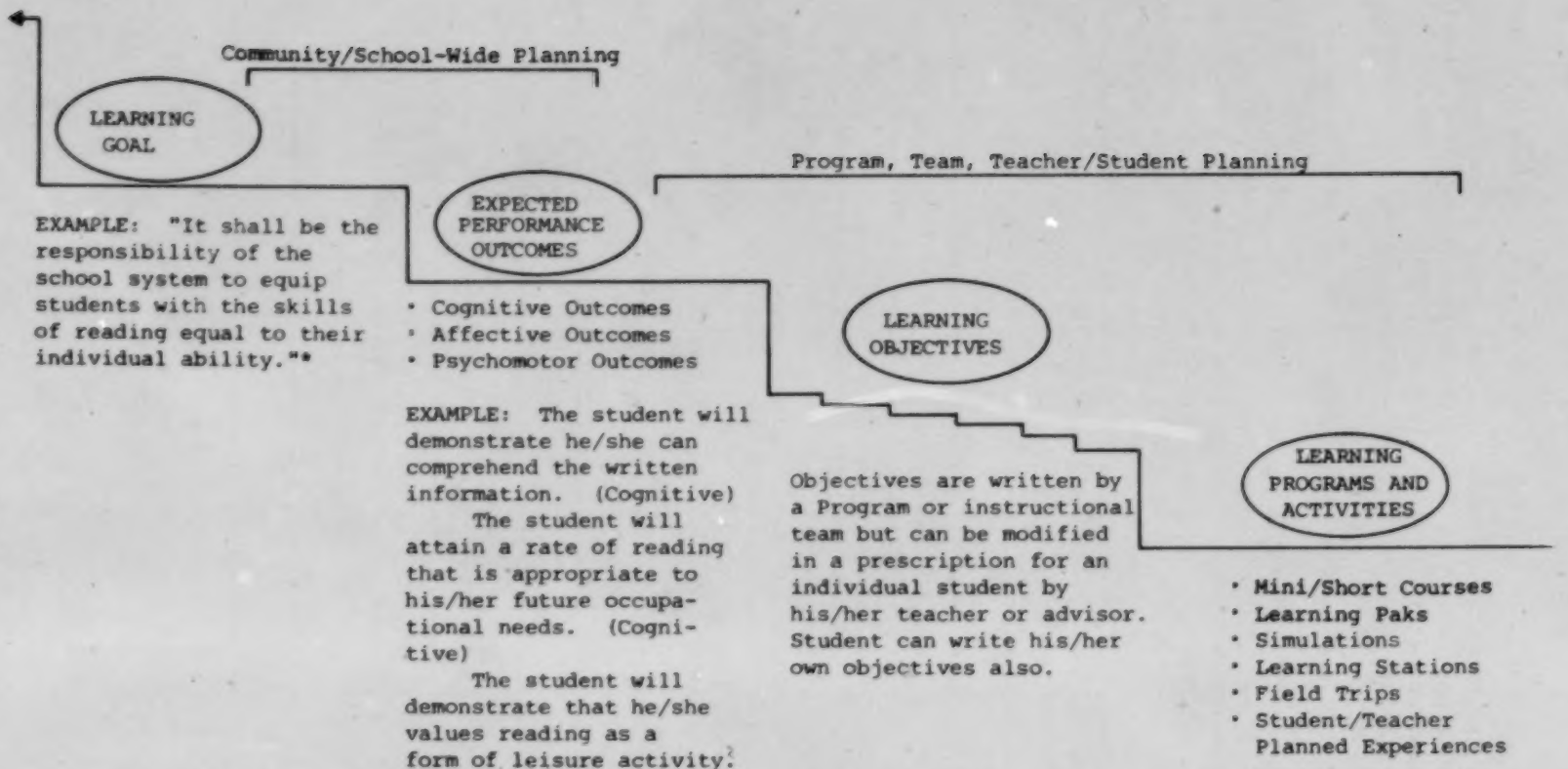

Community/School-Wide Planning
LEARNING GOAL
EXAMPLE: "It shall be the responsibility of the school system to equip students with the skills of reading equal to their individual ability."*
Program, Team, Teacher/Student Planning
EXPECTED PERFORMANCE OUTCOMES
• Cognitive Outcomes
• Affective Outcomes
• Psychomotor Outcomes
EXAMPLE: The student will demonstrate he/she can comprehend the written information. (Cognitive)
The student will attain a rate of reading that is appropriate to his/her future occupational needs. (Cognitive)
The student will demonstrate that he/she values reading as a form of leisure activity. (Affective)
LEARNING OBJECTIVES
Objectives are written by a Program or instructional team but can be modified in a prescription for an individual student by his/her teacher or advisor. Student can write his/her own objectives also.
LEARNING PROGRAMS AND ACTIVITIES
• Mini/Short Courses
• Learning Paks
• Simulations
• Learning Stations
• Field Trips
• Student/Teacher Planned Experiences

Figure 8. IGE/S program planning process.

*Stevens Point, Wisconsin Board of Education Report, October, 1974, Citizen Advisory Committee on District Goals.

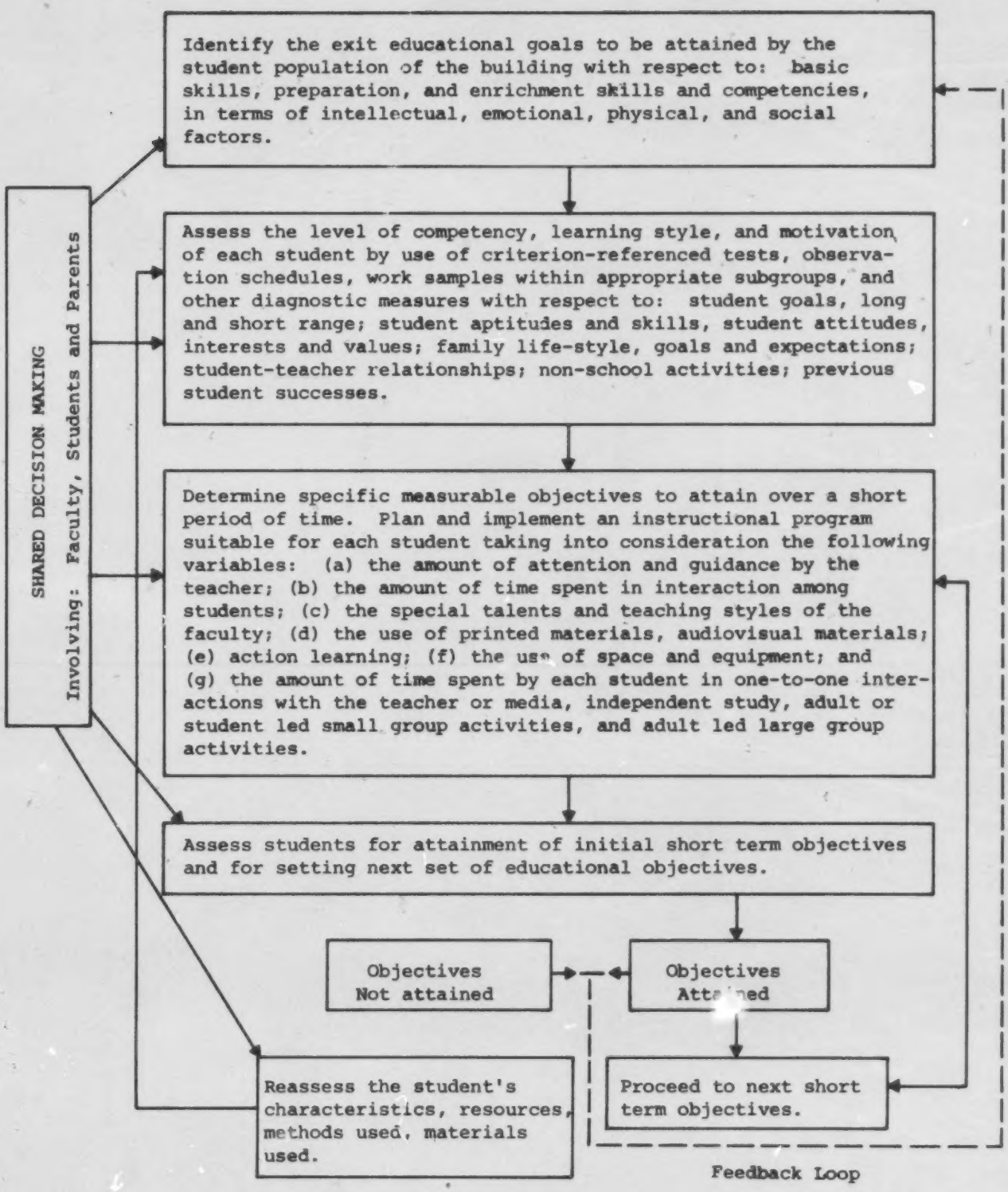

Identify the exit educational goals to be attained by the student population of the building with respect to: basic skills, preparation, and enrichment skills and competencies, in terms of intellectual, emotional, physical, and social factors.
Assess the level of competency, learning style, and motivation of each student by use of criterion-referenced tests, observation schedules, work samples within appropriate subgroups, and other diagnostic measures with respect to: student goals, long and short range; student aptitudes and skills, student attitudes, interests and values; family life-style, goals and expectations; student-teacher relationships; non-school activities; previous student successes.
Determine specific measurable objectives to attain over a short period of time. Plan and implement an instructional program suitable for each student taking into consideration the following variables: (a) the amount of attention and guidance by the teacher; (b) the amount of time spent in interaction among students; (c) the special talents and teaching styles of the faculty; (d) the use of printed materials, audiovisual materials; (e) action learning; (f) the use of space and equipment; and (g) the amount of time spent by each student in one-to-one interactions with the teacher or media, independent study, adult or student led small group activities, and adult led large group activities.
Assess students for attainment of initial short term objectives and for setting next set of educational objectives.
Objectives Not attained
Objectives Attained
Reassess the student's characteristics, resources, methods used, materials used.
Proceed to next short term objectives.
SHARED DECISION MAKING
Involving: Faculty, Students and Parents
Feedback Loop

Figure 9. Instructional programing model to facilitate continuous progress.

may find necessary are basic skills development, human development (career education, sex education, personal relationships), practical skill development, creative-aesthetic development, physical-recreational development, or any combination or additions a school would wish to make or a community would demand.

Within each program the staff responsible for the development and execution of the program will need to develop options in the learning activities, structuring choices to best meet all of the needs of all of the students. Each program or its sub-parts will need to develop a curricula from which students will be able to choose a specific curriculum that fits their unique needs and previous accomplishments. (Curriculum is defined as everything a school or community can provide in the way of learning activities, equipment, materials, and people that a student can interface with to achieve a predetermined goal or outcome.) The steps in the curriculum changeover process are illustrated in Figure 10.

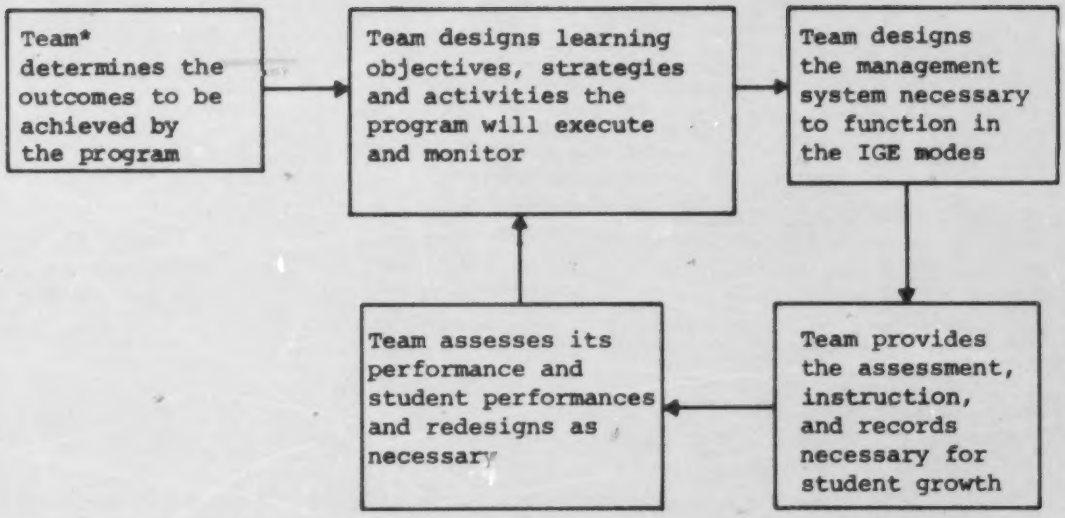
In the fully developed IGE/S learning program, students will accomplish goals at their own rates with their own learning styles, relating to the world outside the school through the contrived and direct learning experiences provided by the school and community.

TARGET GOALS AND PRACTICES FOR SECONDARY SCHOOLS

In this section we present general descriptions of three target goals that operationalize the philosophy underlying Individually Guided Education. These targets represent long-range goals which institutions must decide to develop and implement in order to achieve individualized learning programs for students.

Target Goal No. 1: Continuous Progress Learning

The most encompassing and crucial philosophy that must be operational in an IGE/Secondary school is the concept of continuous progress. To achieve this change certain assumptions about people and learning must be accepted and allowed to guide the development of the management and learning modes of the school: (1) Each student is unique and has his or her own rate and pattern of psychological, intellectual, physical, and social growth. (2) Each student's growth is continuous but has recognizable highs, lows, and plateaus. (3) The educational program must recognize and provide for these varying growth patterns based on the individual needs, interests, and background of the learner. (4) The approach to learning must provide opportunities for successful experiences, mutual respect, acceptance of concern for individuals, and a supportive environment which enhances all aspects of learning. The following comparison between the traditional graded structure and a continuous progress structure gives a fuller picture of continuous progress.


Team* determines the outcomes to be achieved by the program
Team designs learning objectives, strategies and activities the program will execute and monitor
Team designs the management system necessary to function in the IGE modes
Team provides the assessment, instruction, and records necessary for student growth
Team assesses its performance and student performances and redesigns as necessary

*A program may have several instructional teams.

Figure 10. Planning sequence for the design of learning programs.

Graded Structure	Continuous Progress
1. It is assumed that all students of the same chronological age will develop to the same extent in a given period of time.	1. It is assumed that each student has his or her own pattern and rate of growth and that children of the same age will vary greatly in their ability and rate of growth.
2. A student who does not measure up to certain predetermined standards of what should be acquired in nine months is called a failure.	2. No student is ever considered a failure. If a student does not achieve in proportion to his ability, we study the cause and adjust the program to better fit the student's needs and problems.
3. If a student fails, he or she is required to repeat the grade or subject in which he or she did not meet the standards.	3. A student never repeats. He or she may progress more slowly than others in the group, but individual records of progress make it possible to keep his or her growth continuous.
4. A decision on grade placement must be made after each nine months.	4. Decisions on group placement can be made at any time to allow the student more or less time to grow.
5. Grade placements are based largely upon academic achievement.	5. Group placement is flexible, based upon physical, mental, social, and emotional maturity.
6. Fixed standards of achievement to be accomplished within a set time put pressures upon teachers and students which cause emotional tensions and inhibit learning.	6. Elimination of pressures produces relaxed learning situations conducive to good mental health.

The side use of achievement and IQ tests as a measure of performance has been under increasing fire from several sections of the educational scene in recent years. Where selectivity is required, such norm-referenced criteria as IQ, standardized-test scores, and the like may be utilized, but in the day-to-day operation of a secondary school, knowledge of how one person measures up to the group says little about the worth or future achievement of that person. This comment from a national report on education sums up the need for new modes of operations:

> First, our concept of excellence must embrace many kinds of achievement at many levels--there is no single scale or simple set of categories in terms of how to measure excellence; second, we must not assume that native capacity is the sole criterion in superior performance--excellence, as we shall note, is a product of ability, motivation, and character, and the more one observes high performance in the dust and heat of daily life, the more one is likely to be impressed with the contributions made by the latter two ingredients.

Therefore, the IGE/Secondary school needs to adopt instructional systems that allow for the diversity and individuality of the population served by secondary schools. Schools must develop and maintain individualized instructional programming with appropriate curriculum for individuals or groups of students with common needs or interests. Instructional procedures should be individualized and personalized for teachers and students. A system for measurement and evaluation of individual growth and program effectiveness must be developed that holds students accountable for demonstrated performance as individuals and teachers and administrators for the continuous improvement of instructional management through evaluation and research. Questions of how schools should be organized vertically to accommodate variation in student learning patterns and activities are fundamental as one considers the continuous progress development of learners.

An Example of Continuous Progress Learning--Mastery Learning

Learning in secondary schools necessitates that students achieve specific competencies that have been designated as important for their success as adults. Characteristics of mastery learning programs include the following:

1. individualized and personalized instruction that deals with the whole program rather than a single course
2. learning experiences guided by feedback (The feedback cycle should allow for program modification according to individual needs and therefore implies that there is no one best way for all learners to achieve their objectives and that choices must be made among the various means available.)
3. systematic learning programs with related and interacting components
4. emphasis on exit competencies, rather than entrance requirements
5. students (and programs) held accountable for their performance

Outcomes and educational goals should be determined during initial planning stages through cooperative interaction among the community, administrators, teachers, parents, and students. It is necessary that students be able to demonstrate a knowledge level--a degree of comprehension, awareness, application, or skill--and therefore they should be assessed accordingly. The degree or level of the goal or objective to be accomplished will be agreed upon in advance through the involvement of students, parents, and other interested adults, according to a personalized and individualized format. Professional educators then need to translate general and specific learning objectives into appropriate instructional programs suited to each student's needs.

The IGE/S Project believes it is necessary for schools to develop learning environments that promote the communication and interaction needed for students to attain both prescribed and self-selected learning outcomes. This can be facilitated by specifying to those involved in the learning environment what that they need to accomplish, the alternative activities involved, and the prescription to be followed according to individual need and interest.

Target Goal No. 2: Shared Decision Making

The second philosophy to be instituted in the IGE/S school is shared decision making. To accomplish this, one task which must be addressed by the managers of any school is the provision of a process for establishing the direction for the school and the determination of policies and programs to achieve the targets that are established. To augment this process, a comprehensive communication system must be maintained that involves all people affected by a new direction, policy, or program. The opportunity to be involved and to participate in the determination of direction and policies is necessary to gain a commitment to the determined direction and to reach the target. Therefore, one of the target goals of an IGE/S school will be to develop organizational and administrative arrangements that will provide the opportunity for all persons affected to participate in major decisions about the development and improvement of curriculum and learning programs. In an IGE/S school, the system and its components will be organized so that no individual--be it superintendent, principal, or teacher--can make a major decision without obtaining information and counsel with those individuals who will be affected by that decision.

The IGE/S school must maintain planning practices that allow students, parents, teachers, and administrators to plan and design the learning programs of the school with a flexible system for instruction and communication. There must be in the school and community an environment that facilitates an acceptance of continuous change and a commitment to the educational goals and programs agreed to.

Examples of management practices which may support the implementation of shared decision making in a school and better communication between the school and the community it serves are parent advisory councils, instructional improvement committees, instructional teams, student advisory groups, task groups, team teaching, teacher-advisor systems, and parent-student-advisor conferences.

Target Goal No. 3: New Roles and Responsibilities

One of the most challenging issues in the development of IGE/S schools is the change in roles of administrators, teachers, students, and parents.

The principal's role. There is a need for redefinition of the role of the instructional leader in the secondary school. The complexity of the modern comprehensive secondary school is so great that it is increasingly difficult for one person to assume all roles. The principal of the IGE/S school needs special skills to change from the role of "enforcer" or "man in the middle" to instructional leader. In assuming this new role, the principal must learn how to enlist the support of parents, students, teachers, and the community through the use of decision-making organizations and processes that get all members involved and committed to the improvement of the learning program. The IGE/S

Project believes that communities, neighborhoods, schools, and students can collectively attack their own problems and achieve a well-planned, cooperatively organized program for change under the leadership of the principal.

In this new role of instructional leader the principal will need to become aware of and use the knowledge and tools of behavioral science, human relations, and management science. Administrators will need to be able to understand and foster an atmosphere of trust by modeling humane behavior, by communicating effectively with community and school personnel, and by relating to students, teachers, and parents through planning programs that involve them in decision making. This will require the development and utilization of skills in problem solving, change strategies, organization design strategies, and planning techniques.

The teacher's role. The IGE/S Project believes that there must be a shift away from the traditional teacher role of recitation hearer, re-explainer, compulsive corrector of errors, and focuser of knowledge. Teachers must become examplars of the creative thinker and must model the behavior of an effective learner. They must be adept at organizing and managing a diverse group of learning experiences, styles, and materials. They will need to know a variety of means for helping students learn how to learn and build a zest for learning. Teachers, for example, will help critical readers understand both what a writer says and why the writer said it. Teachers must also be diagnosticians who are well equipped with alternative strategies in order to create the environment needed to generate an interest and excitement about learning. The IGE/S Project believes that placing emphasis on learning how to learn, making decisions, solving problems, and choosing from among alternatives is necessary to the total development of learners as well as to the future of society. Teachers must expect to maximize their working satisfaction and professional growth, facilitate individualized learning programs, and act in a process orientation rather than emphasizing only the development of content materials.

The development of cooperative teaching modes will allow teachers to make professional educational decisions based on knowledge of a full range of the factors which enter into the learning-teaching process, i.e., subject matter, motivation, learning style, student characteristics, and teacher competence.

The student's role. One of the basic goals of the IGE/S school is to have the student play an increasingly important role in decisions about his or her unique learning program. Developing skills and attitudes which lead to successful decision making should occur in all areas of the student's life, including school. Experiencing success and failure in this process helps learners more readily determine alternative choices and subsequent action. It prepares the students of today for effective and democratic skills they will use tomorrow.

The scope and development of learner responsibility in decision making in an IGE/S school is illustrated in Figure 11. According to our previously listed assumptions regarding school organization, learning, and learners, a student who is placed in an IGE setting can move across the matrix from having no choice or responsibility to having complete choice and responsibility in setting goals and planning appropriate learning activities for his or her specific needs or interests. An

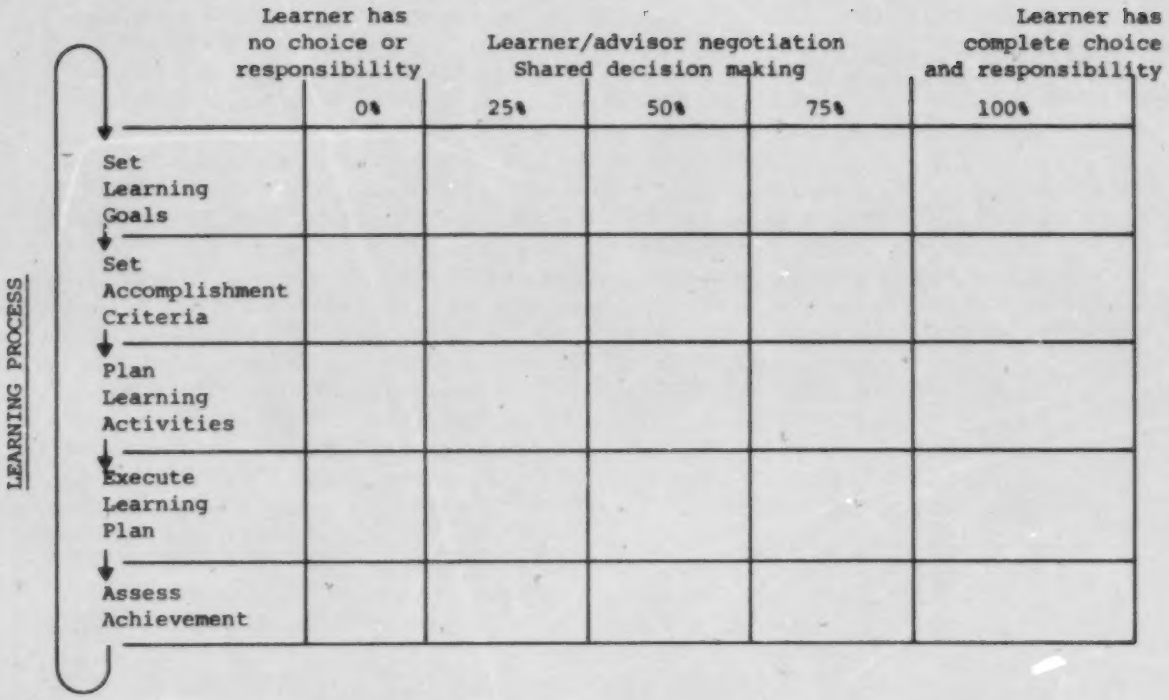


Figure 11. Amount of learner choice/responsibility in what and/or how of learning.

effective learning program is one in which students increasingly share in responsibility for the decision-making process until the major responsibility for determining the learning program rests primarily with the individual learner concerned. Accordingly, the role of student must change in the IGE/S school from a passive group member to an active participant who possesses unique learning styles, abilities, interests, and skills.

The problem of motivation is critical in any learning process. The ability to commit to memory a set of principles or to produce correct answers to a series of problems is one aspect of learning. Another important dimension of learning is motivation--the individual desire or need to learn. We believe that in order to narrow the gap between the potential and actual achievement of a student, the critical task is the development of learning programs that are both utilitarian and practical--utilitarian in that students will be able to see the usefulness of what they are learning, and practical in that they acquire skills that will be useful to them in the future.

If such a dynamic learning program is to be implemented in the schools, we believe that schools must reject the model of the school as a factory. In such a school setting, students become spectators to events arranged for their benefit. An individual's success, failure, and worth are measured by a group norm, and the degree to which one deviates from the mean denotes whether he will be actively encouraged to continue or subtly encouraged to drop out. Given the complexity and diversity of student interest, need, achievement, and motivation in the typical secondary school, standardized and inflexible procedures are both inappropriate and dehumanizing.

Rather than using a standardized approach, we believe that the instructional staff of the secondary school will need to shift gears and become guides and facilitators of learning. To accomplish this goal, teachers will need to know how to determine the present condition of learners by diagnosing their disabilities, strengths, interests, and expectations and, armed with this information, specify and design learning programs that are student-specific. The instructor will need to communicate effectively and relate well with others, manage the flow of small groups for instructional and learning purposes, locate and use a variety of media for instructional purposes, and design individualized curricula and learning programs.

Teachers will need to guide students in the development of certain skills. Students need to know themselves and to accept learning as a lifelong task. They must be able to identify their needs and interests, communicate this information to others, and work effectively with other students, individually and in groups, to develop and achieve their learning options. Such a student will need guidance in selecting the most appropriate learning mode and in accepting responsibility for his or her own learning and developing his or her own short-term and long-term educational plans.

With the institution of these philosophies, planning practices, and learning strategies we submit that the following student outcomes will be achieved:

- Students will demonstrate an improved self-concept through involvement in and utilization of the learning strategies best fitted to their personal needs, interests, motivation, and learning style.

- Students will demonstrate a specified minimal level of performance in basic skills in the three learning domains and thus will be better equipped to lead satisfying and productive lives.
- Students will become effective, lifelong, independent learners who take an increasingly active role in planning their educational programs.

TARGET PURPOSE MILESTONES

Thus far we have discussed modifications of the generalized planning process to school-specific situations and have laid out a series of target goals upon which individual schools may wish to focus. In this section we will attempt to set into a framework many of the concepts of change, planning, and movement of secondary schools towards individualization. This framework will utilize the notions of a purpose, a target, and movement towards that target over time, by integrating those notions into an idealized conceptualization of a target secondary school.

In the first chapter, the notion of purpose as the primary mission or aim of any group or organization was presented. Also presented was the concept of relating purposes in a hierarchical manner, therefore allowing efforts and programs to be directed in terms of a specific purpose to be achieved as well as in terms of a hierarchical context that defines the overall operations of the secondary school. The framework which specifies the idealized target school is presented graphically in Figure 12. It should be noted that this chart is intended to be an illustration, not a prescription, of what the IGE/S change process might lead to if adopted by a school and followed over a period of time. Figure 12, in essence, represents an IGE/S Project conceptualization of how a secondary school might be organized to carry out the mandate to educate its clientele. Since this is an IGE/S target school, it reflects the values and attitudes about education that we feel are both necessary and sufficient to provide individual students with the skills they will need to survive in the future. For any specific school, that school's own values and attitudes would have to be defined and included in such a framework.

PURPOSE STATEMENTS FOR FIGURE 12

Level I

A-1 to provide for the development of basic psychomotor skills in an individualized mode

A-2 to provide for school staff development in the psychomotor domain

A-3 to provide for the school/community development of psychomotor human outcomes for students

A-4 to provide awareness information on the need for individualized psychomotor education programs

A-5 to provide for the development of basic skills of communication, cooperation, understanding, awareness of one's self

A-6 to provide for school staff development of programs for the affective arena of activities

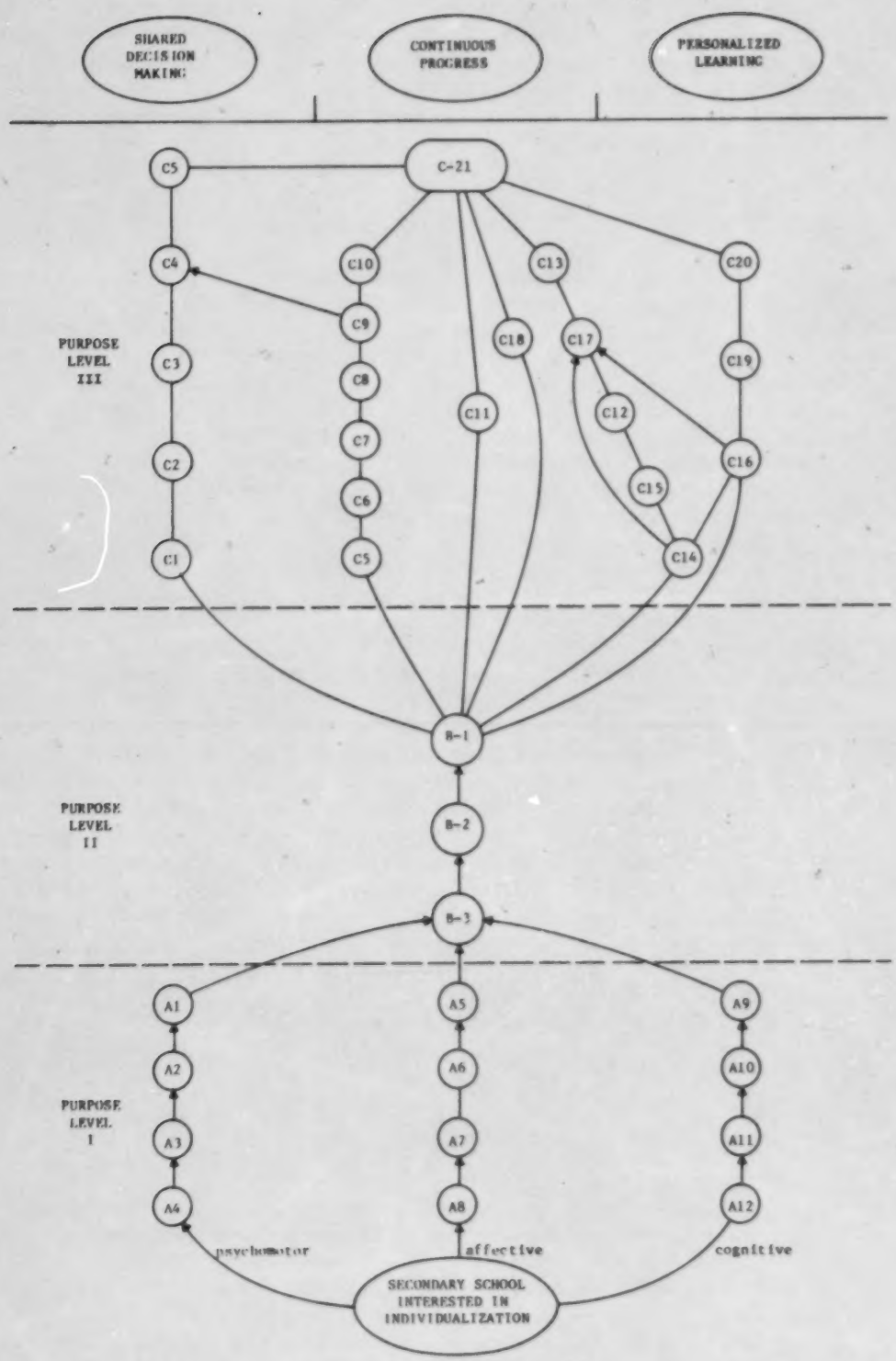


Figure 12. Target purpose milestones for an IGE/Secondary school

A-7 to provide for the school/community development of affective human outcomes for students

A-8 to provide awareness information on the need for individualized affective education programs

A-9 to provide for the development of basic cognitive skills of reading, writing, math, in individualized modes

A-10 to provide for school staff development in the cognitive arena of activities

A-11 to provide for the school/community development of cognitive, human outcomes for students

A-12 to provide awareness information on the need for individualized cognitive educational programs

Level II

B-1 to provide for the development of programs that tie together the three areas of knowledge (cognitive, affective, and psychomotor) and relate them to current issues of the day

B-2 to provide for school planning and staff development mechanisms to integrate the three areas: cognitive, affective, and psychomotor

B-3 to provide for an awareness of the interrelationship between cognitive, affective, and psychomotor domains concentrating on the whole person

Level III

C-1 to provide for learners to investigate alternative areas of interest at different levels, such as, dance and practical motor skills

C-2 to provide for the development of psychomotor programs that focus on health aspects, movement development, relaxation, coordination

C-3 to provide for the development of psychomotor programs that focus on lifelong participation

C-4 to provide for students to develop a balanced and diversified approach to life

C-5 to provide for learners to investigate alternative range of affective topics at differing levels

C-6 to provide for the development of group programs where individuals explore relationships in terms of physiological and emotional development

C-7 to provide for the development of group programs where individuals explore a variety of value systems and structures

C-8 to provide for the development of group preventive-therapy programs focusing on techniques and procedures for dealing with exploration of affective outcomes

C-9 to provide students with an expectation of the kinds of situations that may occur to them in their life (history)

C-10 to provide for students to develop responsibility for and control over their own lives and to have available a large repertoire of alternatives for a variety of circumstances

C-11 to provide for the development of interdisciplinary programs centered around human outcomes in a task achievement manner

C-12 to provide for students to integrate their learning in an application mode (do work and accomplish something)

C-13 to provide for the development of programs that enable students to develop interests around which lifelong learning can be focused

C-14 to provide for learners to investigate alternative areas of interest at different levels

C-15 to provide for the development of experience-based programs enabling applications of individual knowledge to be made

C-16 to provide students with capabilities of gathering information (know what's available or where to get information) and making decisions for daily lives

C-17 to provide for learners to pursue in-depth subject matter areas

C-18 to provide for the development of programs that enable students to dream and develop their imaginations about past and future possibilities

C-19 to provide students with applied skills for daily living (taxes, insurance, law, voting)

C-20 to provide for the development of programs that remove the mystique of interacting with professionals and social service agencies

C-21 to enable individuals to formulate their own life plans and effectively function in their own reality

AN IDEALIZED FRAMEWORK FOR CHANGE

At the top of Figure 12 are cited the three main philosophies that shape the focus of IGE/S: shared decision making, continuous progress, and personalized learning. The remainder of the chart consists of purpose statements, which reflect the programmatic missions or aims that we believe ought to be achieved by an idealized target school. It should be remembered from the planning process presented in Chapter II that under each of these purpose statements a variety of "hows," i.e., how the purpose might be achieved in the form of alternative practices, could be listed as mechanisms for achieving each of these purposes. Furthermore, criteria levels stated in terms of measures of performance could be set for each of these purposes to allow for differing levels of attainment and thereby to enable programs to be carried out in a continuous progress manner from 6th grade all the way through 12th grade. Finally, for each of these purposes a complete target program specified in terms of the systems framework (i.e., the 8 x 6 matrix) could be delineated for each of the criteria levels that is necessary for students to make the transition to adulthood between a 6th grade entry point and a 12th grade exit point. When a secondary school implements specific programs that encompass these factors, IGE/S believes that the school would be well on the way to operationalizing the philosophies of continuous progress, shared decision making, and personalized learning. Figure 12 shows three purpose levels that reflect in a general sense the movement a school could make over a period of time. However, it should be noted that the relationships (shown by the arrows) do not indicate a sequence. Rather, they specify a hierarchical arrangement that is part

of the purpose-based planning process presented earlier. In the same sense that each statement on the chart reflects a purpose to be achieved, each of the levels has its own more generalized purpose.

LEVEL I HAS THE PURPOSE: To develop the abilities of a school community (including students, teachers, parents, and administrators) to work with the emotional, intellectual, and physical areas of each student's growth.

LEVEL II HAS THE PURPOSE: To develop the ability of the school, again including all personnel, to integrate areas of each student's emotional, intellectual, and physical growth into the daily programmatic operations.

LEVEL III HAS THE PURPOSE: To apply instructional strategies, using a balance from the three areas of student growth, to attain the competencies that are deemed necessary for the student to make a successful transition to adulthood.

In Figure 12 the culminating purpose is given at the top: "To provide individuals with the ability to formulate their own life plans and to effectively function in their own life's reality (C21)." It should be noted that this purpose is similar to the high-level purpose specified in the IGE/S hierarchy given in Chapter I. Consequently, the framework presented here reflects the IGE/S Project's values and attitudes for secondary schools and attempts to tie together all of the concepts of change, from purposes to measures of effectiveness, to targets, to alternative practices, to time lines, ultimately leading to the same high-level purpose that has been presented throughout the previous chapters.

OPERATIONALIZING THE TARGET PURPOSE MILESTONES

While Figure 12 reflects the IGE/S idealized target school in terms of purposes, there are additional factors that are part of the change process which would enable a particular school to move from describing an idealized target on paper to actually operating a school that provides the kinds of programs necessary to achieve the purposes. The principle factors necessary for this movement relate to the IGE/S Project's research and development model and the associated technical assistance program for implementing IGE/S.

First, to move a school from having its own version of Figure 12 as a paper abstraction to an actual operating reality requires that the school work in an interactive manner with a change agent as specified in Chapter II. The school and the change agent would develop a school-specific chart such as that shown in Figure 12 and subsequently would work cooperatively to plan, develop, test, and implement the relevant factors under each identified purpose in order that the purposes specified be reflected in the operating reality of the school. In this sense, the planning strategy is the anchor point for having the school personnel

develop target programs for each of the identified purposes. The technical assistance supplied by the change agent to aid in this program development would have a different emphasis at each of the three stages shown in the chart. Just as each level of Figure 12 has its own particular focal purpose, the technical assistance program aimed at aiding the school in a given stage would require a particular emphasis.

For example, to achieve the higher level concern specified for Level I of achieving a balanced approach to student growth in terms of the physical, intellectual, and emotional areas, it appears necessary to have specific programs developed and operated for each of these areas. In this way, school personnel will be able to develop skills and expertise in each of the areas before moving to integrate them in a more balanced approach. Also, using this, the process mechanisms necessary for individualization of learning can be developed and practiced in a less complex situation.

For each of the three lines, moving upwards in Level I, where a given line represents either the physical (A5-A8), intellectual (A9-A12), or the emotional (A1-A4) aspect, similar processes are carried out. Awareness activities for each area are conducted and geared toward achieving involvement of the entire school community in determining student outcomes that are desirable for that school. Staff development programs are necessary to assist in the development of the new skills, knowledge, and procedures which are required to operate individualized programs. Practice in the application of these new skills is attained by implementing programs that are designed to achieve the previously specified outcomes. Consequently, a school starting with no previous experience in the different areas of individualization could develop target programs for Level I and operate these programs for some defined period of time that is agreeable to those involved.

During Level II, the emphasis would be placed on integrating the three areas of student growth to achieve an appropriate integrative balance between the physical, emotional, and intellectual factors involved with each and every student. Level II employs a structure similar to that employed in Level I, but the emphasis is on the integration of the three areas of growth. The same kinds of awareness activities are necessary, staff development to integrate these areas is necessary, and the experience of applying the new knowledge and skills in actual on-going programs for some specified period of time is necessary. It is possible--indeed, it is likely--that differing schools will enter the IGE/S process at differing points. Numerous schools already have highly individualized cognitive programs in operation. Some schools have aspects of the emotional and physical programs operating in an individualized format. A few schools have achieved at least some integration of the three areas in on-going programs.

For both Levels I and II, educational research and development has provided a wide range of alternative practices and procedures to help fulfill any and all of the purposes specified. Many of these are documented in the IGE/S library file of promising practices.

Level III, however, presents a greater problem because it is an idealized representation of competencies that are deemed necessary for students to make a successful transition to adulthood. It is based upon the assumption that the development of these competencies will take place in a balanced manner, drawing upon aspects of the intellectual,

physical, and emotional growth of each student. Secondary schools, as they exist today have had little experience in dealing with such a program. Some secondary schools are attempting to provide for some of the purposes specified in Level III, but no school covers the spectrum represented here. Nor do there exist a multitude of practices that cover the procedures and skills that teachers will need if they are to develop programs necessary to achieve the Level III purposes. However, we believe that by following the IGE/S planning process, teachers and administrators can develop the specific programmatic alternatives that will be necessary to make Level III an on-going reality in secondary education.

PLANNING, HUMAN DEVELOPMENT, AND CONCEPTUAL KNOWLEDGE

Although the overall emphasis in each level may differ (and this, of course, is to be expected by virtue of the fact that each level has a somewhat different purpose), the concept of a technical assistance program that covers planning and decision-making skills, human development skills, and appropriate conceptual knowledge can be utilized at each level. That is, to operationalize the "target school" requires school personnel to (a) develop their planning skills and have the time needed to plan programs for each purpose specified in the chart, (b) develop their skills in interpersonal communication for the interfacing and interaction of the various planning activities that are necessary, and (c) develop their awareness and understanding of the variety of alternative practices that can be utilized in achieving any of the given purposes.

To achieve a truly individualized program that responds to the different needs, interests, and backgrounds of the variety of students and teachers within the school requires both planning time and planning skills to make effective use of that time. While Figure 12 specifies the purposes that the IGE/S Project staff believes in, school communities must plan their own programs to fit their own purposes. For example, in Level III of Figure 12, many of the purposes could be combined in a variety of ways in an interdisciplinary approach, or alternatively a strong disciplinary orientation could be utilized to achieve the purposes. Planning and working with students involves a great deal of interaction, and the skills necessary to interface effectively the many different subgroups of the school and community are required. For example, both school-wide planning to develop a comprehensive overall thrust and team-level planning to set outcomes and choose alternative practices require interfacing of teachers, parents, students, and administrators to establish policy, decide on alternatives, and provide programs that are helpful for all students. Knowledge of the variety of alternatives that already exist will enable school personnel to avoid "reinventing the wheel." A basic understanding of specific practices and procedures which are available can effectively move a school towards attainment of its target program. For example, many of the purposes could be achieved by a contract format of learning, by an independent study format of learning, by a thematic approach to learning, or by a project group-oriented approach to learning. These and many other practices ought to be part of the resources of the school--not only to achieve a variety

of purposes such as those laid out in Figure 12, but to have available different methods of learning that will provide for the appropriate development of each student's growth as they make the transition to adulthood.

In summary, to operationalize a chart such as the one shown in Figure 12, which we believe poses a realistic and attainable target for any secondary school, requires technical assistance by an outside agent focusing on (a) planning and decision-making skills, (b) human development and communication skills, and (c) conceptual knowledge of alternative individualized practices. Most importantly, however, it requires that a school formulate its own target goals as early as possible in the change process and subsequently develop its own continuing change and improvement program to search for the kinds of solutions necessary to provide for individualized learning for all its students. By doing this, a school can develop a target program whereby many of the alternative practices (the bits and pieces) that exist within education today can be associated with specific purposes so that they are no longer viewed as isolated supplemental programs that require more teacher work, but are seen as part of a total program in a context where a school and its clientele can make the appropriate decisions necessary for their own continuing change and improvement.

IV

GENERAL STRATEGIES TO EFFECT CHANGE

In previous chapters we have indicated our agreement with those who speak for reform in secondary schools. In Chapter II the theoretical framework for strategies to promote and aid the change process in secondary schools was outlined. The third chapter presented our idealized target IGE/Secondary school and the planning process, under development, that will aid schools in the planning, development, implementation, and operation of school-specific programs. In this chapter we outline the developmental strategies the IGE/S Project will employ to achieve the previously stated purposes.

The Secondary Project has begun, concluded, or is executing the following developmental activities that will aid middle schools and junior and senior high schools who seek to supplant their present program with IGE modes and practices.

- Intervention Case Studies were conducted with three Wisconsin middle schools (1974-1975) that were implementing multiunit schools and experimenting with grouping patterns, multi-age units, providing for the affective development of the student, and developing individualized curricula. These schools are located in Stoughton, Cedarburg, and Columbus, Wisconsin.

  They received direct economic assistance and consultant aid in the implementation of a teacher-advisor system (Cedarburg), a program designed to determine individual student learning style (Columbus), and work to develop a competency-based curriculum (Stoughton).
- A demonstration school has been established in Monona, Wisconsin, and is currently using the IGE/S planning processes to determine the planning focus for its initial year as an IGE school. A developmental evaluation process is being carried out which is investigating the present organizational structure of the school and the integration of the IGE/S processes in the school learning milieu.

  To aid in the development of this school, a local IGE/S network of southern Wisocnsin schools has been organized. The joint activities of this group serve as a stimulus and support to member schools as they develop their school-specific IGE programs. This network is composed of both middle and senior high schools from Wisconsin communities of Madison, Stoughton, Columbus, Darlington, Johnson Creek, and Monona. They participate in the activities

of the network and in the developmental activities of the Secondary Project as practitioners and consultants to the Project staff.

- To aid in the conceptualization of an IGE/S middle school, the Project funded the operation of a national network of middle schools. These schools are found in Granite Falls, Minnesota; Windsor, Connecticut; Westminister, Colorado; Cerritos, California; Mundelein and Ann Arbor, Illinois; and Johnson Creek, Menasha, Rhinelander, Columbus, Stoughton, Cedarburg, and Milwaukee, Wisconsin. This network is comprised of middle schools that are interested in the development or are currently developing IGE programs within their schools. The network provides a source of exchange, development, and continued improvement toward becoming an IGE place of learning. The Project staff also provides inservice programs in the IGE/S planning and instructional processes. The Project concludes this year (1975) with this theoretical paper, a casebook entitled Appropriate Alternative IGE Practices for Secondary Schools, and a set of implementation materials to be used by process facilitators in IGE/S school involvement programs.

The IGE/Secondary Project has established four programs which vary in the commitment required of the school, the level of project involvement with the school, and the scope of programs. Three of these programs enable a school to proceed at its own pace in implementing IGE/S processes and practices. The fourth program trains school personnel to be IGE/S process facilitators in their own and other schools. Briefly, these involvement programs are as follows:

IGE/Secondary Awareness and Experience Program. *Purpose: To provide school personnel with an awareness of and experience with IGE/Secondary processes and practices as an aid in the development of school programs.* This program is designed for schools that are interested in learning about IGE/S but are not yet fully committed to actively implementing the program.

IGE/Secondary Network School Development Program. *Purpose: To implement specific IGE/Secondary processes and practices within schools.* This program is designed for schools ready to commit themselves to the implementation of specific IGE/S processes and practices, but not yet ready to implement the IGE/S program on a schoolwide basis. The local and national networks of schools are an example of this program.

To begin the program a school joins the IGE/S School Network and negotiates an agreement with the IGE/S Project to implement specified processes or practices. As part of the program, two learning modules will be offered: a basic module ("Concepts and Processes of IGE/Secondary") and an application module ("IGE/Secondary Individualized Practicum") for faculty members implementing specified processes or practices. This program, through a series of agreements, allows continuous progress to occur in implementation of specific IGE/S processes and practices.

IGE/Secondary Demonstration School Program. *Purpose: To implement IGE/Secondary processes and practices on a schoolwide basis.* This program is designed for schools wishing to implement the IGE/S program on a schoolwide basis. Schools may elect to participate in the program after completing programs A and B or may move directly to this program. The program is individualized to meet the particular needs of the school.

This program requires commitment from the school faculty and community to implement IGE/S on a schoolwide basis and requires that the school join the IGE/S Network. Participating schools receive the basic and application modules as well as IGE/S Project staff support. A contract for implementing the program is developed between the IGE/S Project and the school.

IGE/Secondary Process Facilitator Program. *Purpose: To train individuals to serve as IGE/Secondary process facilitators within their own and/or other schools.* The focus in this program is the development of the skills and knowledge useful to perform the change-process function of the IGE/S process facilitator with minimal implementation assistance. This program is designed to prepare individuals who can implement the IGE/S change process within their own schools and in other schools.

The program is individualized for each participant through individual contracts which will include taking the basic module and working with skilled IGE/S process facilitators.

To achieve the purposes of the project the staff has delineated for its funding agent, the National Institute of Education, a general developmental strategy that will create examples of varied approaches to individualization that might be drawn on by schools to fit the unique needs of each school. This practice of facilitating a strategy of school/community-specific alternative examples is in keeping with the theoretical foundations underpinning the Secondary Project's planning process (Nadler, 1970) and is supported by the empirical evidence cited in the recent study by the Rand Corporation of 293 USOE-sponsored programs (Berman & McLaughlin, 1975).

At the same time, the project is focusing attention on a higher level purpose of fostering the development of a continuing change and improvement program in IGE/S schools. Our strategy centers on identifying school-specific practices and building support systems that enable the Secondary Project's school operations to become independent of continued direct involvement with the Center. Three high priority goals which the Project specified in regard to this higher level purpose are

- to establish a set of secondary schools that have in operation a continuing change and improvement program which functions independently of the Secondary Project,
- to specify in a target format the set of philosophies, procedures, and techniques that enable a school to achieve individualized and personalized learning for students, and
- to provide school personnel, i.e., teachers, administrators, and students, with planning and decision-making skills, communication and interpersonal interaction skills, and conceptualization capacities necessary to operate and maintain a continuing change and improvement program within the school.

The Secondary Project's scope of work is delineated in a series of programmatic efforts over the next three years (1976-1979). Fundamentally, these programmatic efforts are formulated in terms of a developmental model that attempts to maintain a balanced interaction between relevant theories and human development and the realities and constraints of the practical world of operating schools. In this regard, the thrust of IGE/S for the next three years is envisioned as follows:

1976-1977
- A. Continued conceptualization of secondary processes and procedures
- B. Focused development of secondary processes and procedures by testing conceptualizations against realities in a few operating schools (intervention studies)
- C. Formulation of appropriate concepts and materials for the implementation of IGE/S
- D. Establish measures of outcome results to enable a school to show itself that progress is being made

1977-1978
- A. Revisions of conceptualizations based on outcomes of previous developmental activities in schools
- B. Extension of the development of secondary processes and procedures to additional field schools (intervention studies)
- C. Focused development of secondary implementation strategy by continued testing of concepts and materials with personnel working in a few operating field schools
- D. Prepare materials for training new facilitators
- E. Implement measurements of outcomes before and during IGE/S installation

1978-1979
- A. Revision of conceptualizations based on outcomes of developmental field school work and field implementation activities
- B. Formulation of focused efforts for continued development of secondary processes and in operating schools (intervention studies)
- C. Consolidation of implementation activities and materials into an initial version of a facilitator's kit
- D. Consolidate evaluation report based on measures at each school.

During the first two years (1976-1977 and 1977-1978), the primary emphasis will be on development (efforts designated in the "B", "D", and "E" categories in the previous lists), while in the third year (1978-1979) the emphasis will be on synthesizing and consolidating the results (efforts designated in the "A" and "C" categories).

SPECIFIC STRATEGIES

The central effort of the project will consist of a series of separate but interrelated intervention studies that are designed to provide the relevant information necessary to achieve specified Secondary Project purposes. It is important to note that these studies will lead to a series of specific products that, in total, comprise the examples of varied approaches to individualization specified above. These products may be categorized in three general areas as follows:

1. Alternative Models and Materials
   a. Theoretical description of an IGE/S target school including specifics with regard to
      1) The Secondary Planning Process
      2) The Secondary Curriculum Changeover Process
      3) The Secondary Continuing Change and Improvement Process
   b. Implementation materials in the form of an IGE/S facilitator's kit
   c. File of practices appropriate to IGE/S concepts and philosophies
2. Trained facilitators who have developed and applied the skills necessary to aid a school in moving toward being an individualized place of learning
3. School-specific programs in the form of case studies of change detailing the use of the Secondary Project's processes in schools and supportive networks along with the particular school programs.

The intervention studies projected for the project consist of working closely with the seven schools in the development of the Secondary Project's processes. Four of these schools will be middle schools, with two being demonstration schools that have direct intervention with the Secondary Project for a three- and a one-year period, respectively. Another school will be a field demonstration school in which process facilitators trained by the Center will be the primary change agent. The fourth middle school is a continuation of the Project's involvement with a middle school in developing and implementing a curriculum changeover process with a portion of the school's faculty. This effort is projected to be completed within the 1976-1977 school year.

Paralleling the middle school effort described above, but with a one year time lag, the Project will conduct three intervention studies with high schools, two of which will involve close cooperation in a demonstration school program and the third will use process facilitators trained by the Center in a field demonstration school program.

For each intervention study the work will consist of planning a school-specific changeover process, preparing materials, conducting an inservice workshop, and providing technical assistance. Each intervention study will be monitored closely by collecting school documents, conducting observations, synthesizing observations and documents, and preparing a case book. In addition, select intervention studies will carry on an

extensive evaluation effort utilizing a participant-observer evaluation structure. This effort will concentrate on examining the organizational integration of the IGE/S process into a secondary school learning milieu. Local school networks will be established and maintained as an extension and support mechanism for the demonstration school.

Balancing these intervention studies, the Project will continue to refine its conceptual development through a revised description of an IGE/S target school. Identification of practices appropriate to IGE/S schools and maintenance of a school practices file, along with the continuing revision and refinement of the theoretical conceptualization of IGE/S, will be the major activities. Finally, the information obtained from the intervention studies and from the conceptual work will be utilized to develop a facilitator's manual to aid individuals who will work with schools wishing to implement IGE/S programs. This manual, together with appropriate material and media aids, will be prepared and tried out at training workshops and in school-specific inservice activities.

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APPENDIX A

LIST OF SCHOOLS CONTRIBUTING TO THE
DEVELOPMENTAL EFFORT OF THIS PROJECT

List of Schools Contributing to the Developmental Effort of this Project

Johnson Creek Junior High
Johnson Creek, Wisconsin
Principal: Al Beeler

Butte des Morts Junior High
Menasha, Wisconsin
Principal: Bill Ott

James Williams Junior High
Rhinelander, Wisconsin
Principal: John Jarvis

Steuben Junior High
Milwaukee, Wisconsin
Principal: Clarence Wudi

Peckham Junior High
Milwaukee, Wisconsin
Principal: Clarence Wudi

Carl Sandberg Junior High
Mundelein, Illinois
Principal: Al Stealy

Webster Transitional School
Cedarburg, Wisconsin
Principal: Thomas Puatsch

Columbus Junior High School
Columbus, Wisconsin
Principal: Mick Maier

Granite Falls Public Schools
Granite Falls, Minnesota
Principal: Douglas McCoss

Sage Park Junior High
Windsor, Connecticut
Principal: Dr. William Saunders

Leland P. Wilson Junior High
Windsor, Connecticut
Principal: Lawrence Dennis

Josephine Hodgkins Junior High
Denver, Colorado
Principal: Richard Chavez

Tetzlaff Junior High
Cerritos, California
Principal: Joseph Baird

Arbor Park Middle School
Oak Forest, Illinois
Principal: Ed Chartraw

Stoughton Junior High School
Stoughton, Wisconsin
Principal: Kenneth Peth

Winnequah Middle School
Monona, Wisconsin
Principal: Gjerald Thompson

APPENDIX B

PERSONS WHO MADE CONTRIBUTIONS TO THE CONCEPTUALIZATION OF THE IGE/SECONDARY SCHOOL REPORTED IN THIS PAPER

Persons Who Made Contributions to the Conceptualization of the IGE/Secondary School Reported in This Paper

OCTOBER 1974 - DECEMBER 1975

Charles R. Keller
Williamstown, Massachusetts

Kent O. Stever
Bloomington, Minnesota

Norman Olson
Marshall, Minnesota

T. J. Griffiths
Denver, Colorado

Evelyn A. Loepsel
Milwaukee, Wisconsin

B. J. Benham
Green, South Carolina

Mick Maier
Columbus, Wisconsin

L. E. Dennis
Windsor, Connecticut

Vira R. Krotz
Orinda, California

Dr. Paul Jary
Wilton, New York

Robert Wendel
Oxford, Ohio

Barbara Shade
Madison, Wisconsin

Kent Irwin
Muncie, Indiana

Don Hubbard
Oregon, Wisconsin

Oliver Phillips
Yamda, Colorado

Babette D. Frisbie
Johnstown, New York

John D. Vine
Corning, New York

Daniel L. Duke
Lowville, New York

Betty Fey
Madison, Wisconsin

Barbara Thompson
Madison, Wisconsin

Fred Maher
Council Bluffs, Iowa

Donald Berkowitz
Windsor, Connecticut

Lawrence P. Shea
Windsor, Connecticut

William Johnson
Windsor, Connecticut

W. Henry Case
Watertown, New York

L. Rutherford
Carthage, New York

Robert Bowers
Richland Center, Wisconsin

Mike Brumet
Madison, Wisconsin

Pilot School Participants

Columbus Junior High School (Dickason School)
- Mr. Mick Maier, Principal
- Dr. Marq Stankowski, Motivation To Learn Center
- Mr. Ron Retzke, Motivation To Learn Center

Webster Transitional School (Cedarburg)
- Mr. Thomas Puatsch, Principal
- Mr. Robert Burns, Counselor
- Mr. Keith Hubel, Southwest State University (Minnesota)

Stoughton Junior High School
- Mr. Kenneth Peth, Principal
- Ms. Harriet Zangerle, Assistant Principal
- Mr. Norm Thede
- Mr. Francis Haugh
- Ms. Fran Schrimpf
- Ms. Grace Hanrahan
- Mr. Gary Salt
- Ms. Connie Culleton
- Ms. Karen Lima
- Mr. Warren Beckwith
- Ms. Penny Hausmann

Associate School Principals and Liaison Persons

Johnson Creek Junior High
Johnson Creek, Wisconsin
Principal: Al Beeler

Butte des Morts Junior High
Menasha, Wisconsin
Principal: Bill Ott
Liaison: Barbara Krueger

James Williams Junior High
Rhinelander, Wisconsin
Principal: John Jarvis

Steuben Junior High
Milwaukee, Wisconsin
Principal: Don Luebke
Liaison: Russell Ziemer

Peckham Junior High
Milwaukee, Wisconsin
Principal: Clarence Wudi
Liaison: Evelyn Koepsel

Carl Sandberg Junior High
Mundelein, Illinois
Principal: Al Steakly

Arbor Park Middle School
Oak Forest, Illinois
Principal: Ed Chartraw

Granite Falls Public Schools
Granite Falls, Minnesota
Principal: Douglas McCoss
Liaison: Bruce Wilcox

Sage Park Junior High
Windsor, Connecticut
Principal: Dr. William Saunders
Liaison: Ms. Geraldine de Livron

Leland P. Wilson Junior High
Windsor, Connecticut
Principal: Lawrence Dennis
Liaison: Robert Barter

Josephine Hodgkins Junior High
Denver, Colorado
Principal: Richard Chavez

Tetzlaff Junior High
Cerritos, California
Principal: Joseph Baird

Participants in Associate School IGE/S Network Conference--
February 4-6, 1975

Sheri Oberg
Webster Transitional School
Cedarburg, Wisconsin

Nelson W. Quinby
Director of Secondary Schools
Windsor, Connecticut

Mary Reilly
Johnson Creek Public Schools
Johnson Creek, Wisconsin

Bob Snyder
Carl Sandberg Junior High
Mundelein, Illinois

Dennis Tamminga
Columbus Junior High
Columbus, Wisconsin

Teri Thomas
Tetzlaff Junior High
Cerritos, California

Bruce Wilcox
Granite Falls Public Schools
Granite Falls, Minnesota

Ruth Ann Williams
Peckham Junior High
Milwaukee, Wisconsin

Harriet Zangerle
Stoughton Junior High
Stoughton, Wisconsin

Russell Ziemer
Steuben Junior High
Milwaukee, Wisconsin

Dean Zimmerman
Webster Transitional School
Cedarburg, Wisconsin

IGE/S Summer Course Attendees--Summer 1975

Dr. Anthony Mensah, University of Wisconsin-Milwaukee
Teresa DeLeo, Darlington Junior High
Mary Reilly, Johnson Creek Junior High
John Penn, Winnequah Middle School
Sara J. Bussler, Johnson Creek Junior High
Sherrill Arsenau, Winnequah Middle School
JoAnn Poole, Winnequah Middle School
Vincent A. Schultz, Lincoln Middle School
Connie Culleton, Stoughton Junior High
Norm Thede, Stoughton Junior High
Gary Salt, Stoughton Junior High
Fran Schrimpf, Stoughton Junior High
Ken Peth, Stoughton Junior High
Lavern Priebusch Jr., Johnson Creek Junior High
Isabel D. Mead, Johnson Creek Junior High

IGE/S Staff

Dr. Patrick W. Struve, Director
Dr. James V. Schultz, Associate
Katherine Koritzinsky, Specialist

IGE/S Staff (cont.)

James C. Thomson, Jr., Specialist
Jacquelyn Ellenz, Assistant
Betsy Abramson, Secretary
Raymond A. Schultz, Assistant to July 1975
Kay Feathers, Assistant to May 1975
Dr. Mike Brumet, Evaluator to June 1975

Research and Development Center Staff

Richard R. Rossmiller
Gerald R. Nadler
Marvin Fruth
James Walters
Hillel Raskas
Dennis W. Spuck
Sidney L. Belt
William Bush
Elaine Magregor
Elaine Fritz
Laurence Weber
Diane Eich

Local Network Members

Katherine Koritzinsky, Research and Development Center
Ron Klein, Darlington Junior High
Mary Reilly, Johnson Creek Junior High
Mick Maier, Columbus Middle School
Mike McArdle, Madison East
Dennis Tamminga, Columbus
Ken Peth, Stoughton Middle School
John Penn, Winnequah Middle School
Harriet Zangerle, Stoughton Middle School
Hal Rebholz, Madison Memorial High School

Winnequah Workshop Attendees, August 1975

Edmond Schwan, Superintendent
Gjerald Thomson, Principal

Steering Committee Members

Jody Poole
Victor Yonash
John Penn
Sherril Arseneau

Teachers

Chris Winslow
Brian Alme
Sherrill Arseneau
Craig Gunnermann
Mary Sharpe
Else Solberg
Stan Walz
Vic Adomavich
Bill Kaether
Barbara Ries
Susan Maier
Jim Gottinger
Mary Boyd
Sharon Scheck
Dave Czerepinski
John Penn
Polly Diem
Jody Poole
Bruce Muckerheide
Earl Knott
Sandra Chopin

Dick Klipsic
Sheilah Tietje
Mary Kelly
Joe Blum
Dave Seiberlich
Rozell Henkel
Marsha Barbour
Jim Green
Charles Fagerlin
Doug Terhune
Louise Disch
John Kunish
Diane Mosher
Vic Yonash
John Keyes
Patti Young
Jerry Riley
Karl Aeschlimann
Gary Dickert
Susan Noffke

APPENDIX C

PROJECT PUBLICATIONS USEFUL IN THE IMPLEMENTATION OF IGE FOR SECONDARY SCHOOLS

Project Publications Useful in the Implementation of IGE for Secondary Schools

IGE/MUS-S: An Instructional Management System for Secondary Schools, Theoretical Paper No. 44, Katherine M. Koritzinsky and Steven J. White, Wisconsin Research and Development Center for Cognitive Learning.

Student Affect as a Function of Socio-Psychological Climates in the Classroom, Technical Report, Raymond Schultz, Wisconsin Research and Development Center for Cognitive Learning.

Guidelines for Faciliating Change in Secondary Schools, Working Draft, Katherine M. Koritzinsky and James C. Thomson, Jr., Wisconsin Research and Development Center for Cognitive Learning.

Appropriate Alternative IGE Practices for Secondary Schools, Working Draft, Jacquelyn R. Ellenz, Wisconsin Research and Development Center for Cognitive Learning.

Winnequah Middle School Workshop Results: An Illustration of the Application of the IGE/S Planning Process, Project Paper, Wisconsin Research and Development Center for Cognitive Learning.

APPENDIX D

ADDITIONAL RESOURCES

Additional Resources

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